

Railway Age

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EDITORIAL

Railway Age

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Standards of maintenance have an important bearing on locomotive utilization and in this connection it is interesting to

Engine Failures Reduced

note the intensive effort being made on many roads to decrease engine failures. The number of engines which fail in road service can be brought to the desired minimum only by the attainment of relatively high standards of maintenance in back shop and particularly enginehouse work. Not only is a carefully trained engine terminal organization needed but equipment and machinery required for the prompt handling of running repairs must be available. If a roundhouse foreman has not this equipment at his command he is tempted to put off repairs which may subsequently result in costly engine failures. This is especially true in times of power shortage. Several railroads are making careful studies of engine failures and their causes, keeping records and playing one division against another to develop a competitive spirit among the men. This work has been most effective. The Missouri-Kansas-Texas, for example, was able in this way to reduce engine failures on the entire system from 46 to 27 in the first five months of this year. The Union Pacific, as pointed out in an article in last week's issue, is now securing an average performance of one engine failure per 100,000 locomotive miles. The Chicago, Milwaukee & St. Paul is making a detailed study of the causes of engine failures, including hot bearings, machinery failures, boiler failures, and failures from defective air brakes and other causes. This information is in the form of monthly reports sent to all division master mechanics and roundhouse foremen. The application of corrective measures has resulted in an important decrease in engine failures.

The Canadian Board of Railway Commissioners has, in ordering the withdrawal of the greater part of the rates provided for under the Crow's Nest Pass Agreement, arrived at the only logical

Exit the Crow's Nest Agreement

solution to the muddle in which the application of these rates has placed the Canadian railways and shippers. The Crow's Nest Pass Agreement, providing for certain low maximum rates on the Canadian Pacific in the Prairie provinces, was suspended by the Canadian Government after the war and came into full effect again only on July 7 of this year. Out of regard for its revenues, the C.P.R. insisted on applying the rates under a strict construction of the agreement, i.e., only on those of its lines which existed at the time the agreement was entered into. The Canadian National, which was not a party to the agreement, applied the rates only at competitive points. The result was the grossest kind of discrimination against certain localities. The Railway Board, of course, could not countenance this discrimination. The alternatives open to it were either to lower all rates to the level provided in the Crow's Nest Agreement or to disregard the agreement and establish fair rates everywhere. The first course might well have meant ruin for the C.P.R. and for the hopes that the C.N.R. may one day pay its way. Nevertheless there was a great deal of political uproar against

the adoption of any other course and the Board may be congratulated upon its refusal to heed it. One of the chief functions of a body such as the Canadian Railway Board or the Interstate Commerce Commission is to establish rates which shall be fair to shippers and at the same time secure adequate returns for the carriers. Such a task is extremely difficult even under the most favorable conditions. An obstacle such as that offered by the Crow's Nest Pass Agreement makes it practically impossible. If a rate-making body is instructed to establish fair rates and at the same time is burdened with restrictions so as to make the execution of this mandate impossible, then it had as well cease to operate. The Railway Board has relegated the Crow's Nest Pass Agreement to limbo. There it should be allowed to rest.

Campaigns, drives, posters and publicity notwithstanding, the American motorist is apparently bent on his own destruction at grade crossings. In the first

What's the Use?

two days of a recent week six automobiles ran into the sides of trains on one western road. The collisions occurred at widely separated points but in broad daylight, between the hours of 8 a. m. and noon. In one case a motorist ran into the side of the 20th car in a train. In every instance the crossings were protected by a watchman and signals. This astonishing disregard for personal safety would be amusing if it were not so appalling. It is discouraging, too, to those who have devoted their efforts to try to reduce the number of such accidents. Probably everything that could be done to eliminate this sort of carelessness has been done, but instances similar to the latest one—which is a record breaker so far as we know—continue to recur. Many motorists are undoubtedly more careful today than they were previously, thanks to the efforts of the American Railway Association and other bodies interested in safety. But a few, of which the six drivers mentioned above are typical, will not learn except through experience. Perhaps the wrecking of their cars will convert them. Perhaps law suits for damages, a form of retaliation now gaining in popularity among the railroads, will be necessary. We recommend such defensive measures heartily.

The average railroad man is not very greatly affected by the blowing off of a locomotive pop valve unless he is keenly interested in fuel conservation.

Little Things That Irritate

There are few things, however, that are more annoying or irritating to the average man or woman than the sudden blowing off in the near vicinity of the pop valve of a large modern locomotive. A business man on a trip to one of our larger cities stopped for the night at one of the principal hotels, located in the very heart of the business section of the city near a large railroad passenger terminal station. He was awakened before five o'clock in the morning by the sudden blowing off of a locomotive, which for some reason or other had been

placed on a side track within 300 or 400 yards of the hotel. For the next two hours or more the pop valves operated at short intervals. Imagine this man's disposition when he went down to breakfast and during the day as he came in contact with other business men throughout the city! The carelessness of the employees of the railway company in allowing a thing of this sort to happen was not only inexcusably wasteful from the standpoint of fuel economy (15 lb. of coal wasted per minute while the pop valves were open), but it undoubtedly did more damage because of annoying the guests in the large hotel than could be offset by a very large expenditure for advertising for educational purposes. It may seem like a little thing and the average railroader may smile over this incident, but it certainly made at least one man exceedingly angry—so angry in fact that he will not listen to reason in discussing questions which affect the railways and their future. Is it not true that the critics of the railways in smoking cars and other public places frequently support their arguments or criticisms against the railways and draw general conclusions based on little things of this kind, which are relatively unimportant as compared with some of the larger questions involved? This only emphasizes the necessity for securing the wholehearted cooperation of all of the employees in studying ways and means to give the public the best possible service and in removing the little things which annoy and irritate the public and the traveler.

The rail executive whose letter on highway crossing dangers is printed in this issue touches upon two separate questions: separate because one of them,

Varied Phases of the Crossing Problem

that concerning the use of the locomotive whistle, is a question of the railroad's duty, while the other, that of changes in the highway, has to do with a state or municipal duty. As suggested by our correspondent, a first duty is agitation; and to that extent railroad officers are in the same class with all other citizens. With such a far-reaching and elusive problem as that of keeping thoughtless persons from killing themselves at crossings, it is highly desirable that people all over the country shall educate themselves to think alike. The suggestions of "Executive" are very much to the point. The problem of correct whistle practice is difficult because engineers must act on their own judgment, in large degree; and uniformity in practice sometimes seems to be almost unattainable. Sounding the crossing signal a second time would in some cases do good; but if it were to be generally required by inflexible rule it would give the small-minded lawyer one more point on which to ring the changes on the claim of carelessness; that in a given case the engineman forgot to give the warning. A suggestion that the second whistle should be sounded before instead of after the eighty-rod signal has also been made; this to give a better warning when the train is traveling at very high speed. But then comes in the new condition that automobiles themselves make so much noise that all audible signals are losing their efficacy. In short, there is much work to be done to build up a body of well-defined opinion as to just what shall be deemed to be the best all-around practice at highway grade crossings where the cost of gates or flagmen would not be warranted. As to barriers in the highway, whether physical or psychical, the course taken by the Pennsylvania Railroad, in co-operating with the Highway Department of the State of Delaware, as noted in these columns on September 27, would seem to be worthy of very general imitation. Where a state (or a county, or a city) is disposed to take action in these matters, the railroads can well afford to give them material encouragement—and to advertise them.

A Labor Leader on Government Ownership

THE MOST SENSIBLE THING on the subject of government ownership that has been said by any labor leader for some time was an address delivered by W. N. Doak, vice-president of the Brotherhood of Railroad Trainmen, last week. Mr. Doak recognizes an important fact which most railway labor leaders have not perceived or have ignored. This is, that the methods that labor unions now use to promote the interests of their members are incompatible with government ownership. The labor unions struggled for years for "collective bargaining" regarding wages and conditions of employment. Collective bargaining is purely economic in its nature. Government ownership inevitably substitutes political for economic methods.

The contrast between the methods that are used at present by railway employees and their representatives in dealing with the railway companies and the methods that would necessarily be used under government ownership is clear cut. Suppose, that at present a class of employees on a particular railroad or group of railroads seeks an advance in wages. We have seen claims that the labor provisions of the Transportation Act preclude collective bargaining. The exact opposite is true. They require in effect that the proposal for the advance in wages shall first be presented to the railway managers and considered in conferences between them and representatives of the employees. The Railroad Labor Board cannot take a jurisdiction of any controversy until this has been done. The negotiations in these conferences are collective bargaining in the truest sense. Perhaps the change in wages will be agreed to in the conferences. Only if an agreement is not reached and there is danger of a strike that will interrupt transportation does there develop a dispute of which the Railroad Labor Board may take jurisdiction. The Board after hearings will make an award, but neither side has to accept it. The employees are free to strike if they do not like it. In other words, collective bargaining and the right to strike are recognized and preserved under the existing policy of private ownership and government regulation. It may or may not be that they should be recognized and preserved, but they are. Now, we take it that there are no two rights that the labor unions hold more dear than those of collective bargaining and striking.

The whole situation, as Mr. Doak points out, would be completely changed under government ownership. The public at present occupies the position of an impartial arbiter between the railways and the employees. Under government ownership if a controversy arose regarding wages the railway employees would be one party to the dispute and the public would be the other party to it. How, in these circumstances, could there be true collective bargaining? The municipal, state and federal governments now have about three and a half million employees. Their wages are fixed by legislative enactments. Suppose now that government ownership of railways were adopted. Presumably, if there were a wage dispute the employees would be represented by the officers of their union. The government would be represented by the men designated by it to manage the railways. If, however, wages on the railways were fixed by Congress, as wages in the Postal Department, for example, are now, the men appointed by the government to manage the railways could not agree to any change in wages. All they could do would be to agree to recommend that Congress should pass the necessary legislation. There cannot be real collective bargaining except between men who are able to make a bargain; and the managers of the railways would not be able to make a bargain. Wages would be fixed by Congress. It may be answered that this was not the case under government operation during the war. That is true. The Railroad Control Act, being a war

measure, gave the President, and he in turn gave the director general of railways, authority to fix all wages and rates. But Congress has never adopted a law applicable in time of peace in which it gave the President or any other public official such authority. There is no reason for believing that it would give them any such power under a policy of permanent government ownership of railroads.

Suppose, then, that under government ownership railway employees wanted an advance in their wages. They would have to appeal to Congress for it. They would have to exert political pressure upon the members of Congress. But railway employees constitute only a small part of the people of the country. Higher wages might and probably would mean higher rates. It seems quite probable that the much larger number of the people who want low rates would apply pressure to Congress to prevent the advance in wages. The question of railway wages would inevitably become one of bitter political controversy and contests.

Suppose railway employees did not get the wages they asked for? They can strike now. Could they strike then? Under government ownership they would be striking against the government. Mr. Doak very pertinently asks whether they would be allowed to strike against the government. If they strike now they may have public sympathy because they are striking against private companies. How much public sympathy would they have if they struck against the government, which actually would be striking against the public? It seems probable the result of the first strike on the railways under permanent government ownership would be the passage of a law prohibiting strikes and providing such heavy penalties for labor leaders who ordered them that the first strike would be the last one.

In any event, the outstanding fact is that the adoption of government ownership would destroy all existing methods of settling disputes between the employees and the railways and repeatedly raise direct issues between the railway employees and the public. If the employees were strong enough by the use of political methods or strikes to compel the public to come to terms, then our government would become practically a dictatorship of the railway employees. Undoubtedly this is what many of the labor leaders, who are advocating government ownership, hope and believe would be the result. They anticipate that they would become the real dictators. On the other hand, suppose that the public should array itself against the railway employees, effectively prohibit strikes and defeat their political efforts. In that event railway employees would be deprived of most of the economic freedom and political influence that they now possess.

There is plenty of experience on which to base a conclusion as to what the outcome would be. The employees probably would soon be prohibited from striking; whether successfully prohibited or not. Collective bargaining would be destroyed because wages would be fixed by legislation passed by Congress. The efficiency of management would decline because, as Mr. Doak indicates, men of the ability of those who now manage the railways would refuse to serve for the salaries the government would pay, and the number of employees and the expenses of operation would increase. Deprived of their economic weapons and of the right of true collective bargaining, employees in every state and congressional district would constantly be engaged in political activity to secure the election of senators and representatives favorable to paying them higher wages, while other classes of people would be as constantly engaged in trying to prevent senators and representatives favorable to the employees from being elected. There would result an incessant struggle which would be demoralizing to railroad operation and to politics.

There could be no better object lesson than has been afforded by the experience of the German railroads. The Prussian railways under the Hohenzollern monarchy were the best managed state railways in the world. They made

substantial profits, but among the means used were the prohibition of railway employees from belonging to labor unions and from striking and the application of a system of voting which deprived them of political influence. The establishment of a democratic form of government in Germany following the war resulted in an enormous increase in the number of employees and the incurring of vast deficits. It became recognized that payment of adequate reparations by Germany required that a large part of the money should be derived from the revenues of the railways. It was plain, however, that the railways could not be made to earn profits under government operation. In consequence, under the plan adopted by the Dawes Commission the railways have been turned over to the management of what is virtually a private company. Before this was done the number of employees was approximately 1,000,000 or about four times as many per mile of line as in the United States. Since the change in management the number of employees has been reduced by 250,000. Instead of continuing to incur huge deficits it is estimated by Sir William Acworth, one of the Dawes Commission railway experts, that "it will be well within the power of the German railways to earn a net revenue of £45,500,000 (about \$221,000,000) with no undue burden upon their customers."

Mr. Doak points out that the LaFollette-Wheeler program includes nationalization of all public utilities as well as railroads and "would lead to an increase of government employees to the tune of six millions which would mean that 28,687,000 people, or one person out of every four of the population, would be supported directly by the government." It is obvious that the adoption of this policy would work a vast revolution in the industrial and political institutions of the country. Mr. Doak undoubtedly is right in saying that this program "is repugnant to the objects and aims of our government and will destroy the rights of our people."

Concluding Information on the 19 Order

ONLY ONE MORE WEEK remains in which to send in your ideas and opinions on the question of adopting the exclusive use of the "19" order in preference to the "31" form for controlling the movement of trains. Since the opening of the contest, announced in the September 6 issue of the *Railway Age*, a total of forty papers have been received from operating men, including chief dispatchers, trick dispatchers, operators, division superintendents, assistant superintendents, trainmasters, conductors, agents and transportation inspectors.

From the papers that have been received it seems evident that the majority of operating men favor the exclusive use of the "19" order. Nevertheless, some of the other writers feel that safety in train operation is the prime consideration, to the extent that any operating advantages in the way of economies effected are not worth the disadvantages involved because of accident liabilities. There seems to be a difference of opinion, however, as to the relative safety of the two forms of train orders, many railway men contending that the "19" order is even safer than the "31" form. The advantages to be gained through the exclusive use of the "19" form seem to be universally recognized, and from the papers already submitted it appears that a substantial saving in operating expenses has been experienced wherever this form has been adopted. These large savings have been brought about principally through increased locomotive mileage, increased car mileage and decreased fuel consumption. It seems that most railway men are agreed that there is no essential difference between the two forms of orders. Both will

accomplish the same object—safety in train operation—if they are carried out properly, yet the danger always exists that there might be a failure in the delivery of the "19" order, which is one of the most common arguments against its adoption. The danger resulting from such an error is, of course, eliminated by automatic signaling.

As evidenced by the opinions expressed in the papers already received, this question of the use of the "19" order is receiving serious thought by many operating officers. No doubt there are many others who, through long experience with both forms of train orders, are very capably informed on this controversial subject and could well advance the efficiency of railway transportation by submitting their opinions. To promote interest a prize of \$125 will be awarded for the best paper and another prize of \$75 will be awarded for the second best paper, the awards to be made by three practical railway operating officers who will base their decisions on the practical value to operating officers of the information presented. The judges will pay particular attention to descriptions of measures which have been taken in the adoption of these practices and the results which have been secured. In addition to the prize winning articles all other articles accepted for publication will be paid for at our regular space rates. Papers or letters commenting on this subject should be addressed to the editor of the *Railway Age*, 608 South Dearborn street, Chicago, and must be received by November 1, to be included in the contest.

La Follette on Railroads

THE MOST ENCOURAGING SPEECH on the railroad question that has been made recently was delivered by Senator La Follette at Omaha on Monday. According to press reports, he said that public ownership is not an "immediate issue" and that if elected he would not undertake "any ill considerate experiments in public ownership of railroads or along any other line." The platform adopted by the so-called "Progressives" at Cleveland declares expressly for public ownership of railroads. Senator La Follette repeatedly, within the last year, has stated that he is in favor of public ownership of railroads and all other public utilities. Why then did he say at Omaha that public ownership is not an immediate issue? He is trying to get the votes of two classes of people, the farmers and working men, especially members of labor unions. When at Omaha he was speaking in the midst of the agricultural west. There has been good reason to believe that the advocacy of government ownership has been taking very badly among the western farmers, and it is encouraging to find Senator La Follette indicating he knows this, and trying to placate farmers who are opposed to government ownership.

But the real brains and financial resources of his movement are furnished by the railway labor leaders and socialists. They want government ownership as soon as they can possibly get it. What are they going to think about what he said at Omaha? His address, like many other features of the movement of which he is nominally the head, illustrates the difficulty of uniting two classes of people whose economic and political ideas really are fundamentally different.

However, the Senator in this address was unusually prolific in the kind of deliberate misrepresentations that are constantly disseminated by himself and other advocates of government ownership regarding the Transportation Act and what has occurred under it. He made numerous statements which, if he really knows anything about railway matters, he knew tended to produce a wholly false impression. He charged that the railways have been allowed to earn 6½ per cent on their valuation under the Transportation Act. During the four years that that act has been in full effect

the railways have earned only 4 per cent on their valuation. If Senator La Follette does not know this he is so ignorant that he has no moral right to try to discuss railway matters. If he does know it, he told what he knew to be false.

He said that "the railroads have spent millions of dollars in propaganda to convince the American people that this huge increase in freight charges was due to wage increases paid to railroad employees." The railways have never spent a dollar to convince the public that the increase in freight rates was due entirely to increases in the wages of employees. What they have done has been to try to make the public understand that much the greater part of the increase in rates has been made necessary by advances in wages. The indisputable statistics of the Interstate Commerce Commission show that out of every dollar of increase in the earnings of the railways in 1923 over 1916, there was paid out 57 cents in increased wages to employees, 7 cents in increased taxes and not a penny in increased profits to the owners of the railways, because the profits were actually less in 1923 than in 1916.

Referring to the advance in rates made in 1920, Senator La Follette added, "It is true that the Railroad Labor Board did award the employees a wage increase just before this rate increase was put into effect, but the wage increases amounted to \$564,000,000. The rate increase was \$1,500,000,000, nearly \$1,000,000,000 greater than the wage increase."

This is the kind of falsification by the under statement or suppression of pertinent facts which constantly characterizes everything he says. What are the facts? The railways were returned to private operation on March 1, 1920. Before their return to private operation they were incurring a large deficit which was constantly increasing. In February they failed by 17 million dollars to earn enough to pay their operating expenses and taxes and incurred a deficit, after the payment of the government's guarantees to the owners of the railways, which amounted to 75 million dollars. In other words, he completely ignores the fact that at the conclusion of government operation the deficit being incurred was running at the rate of at least 900 million dollars a year. That was a small circumstance that had to be considered in fixing rates after the railroads were returned to private operation. Furthermore, the advance in wages granted was much larger than stated by Senator La Follette. It actually amounted on the average to 91 cents a day for every day in the year for every employee on the pay roll. The number of employees in 1920 averaged 2,022,832. Therefore, the advance in wages actually was at the rate of \$671,884,000 a year. The advance in rates granted was necessary, first, to offset the deficit that was being incurred under government operation and, secondly, to offset this advance in wages. Senator La Follette's statement was intended to convey the false impression that it was needed only to cover the advance in wages made in 1920. If the advance in rates had been only as great as this advance in wages, every railroad in the United States would have been bankrupt within 30 days after the war-time government guarantees were withdrawn.

Senator La Follette continued, "Every dollar of the wage increase awarded to employees at the time of the rate increase has been taken away by the labor board."

This is not true. The average earnings of each railway employee for every day in 1920, before the wage advance was put into effect, were \$4.33. For every day in the first six months of 1924 they were \$4.43. This may not seem a large difference but on the basis of the number of men that have been employed this year, it makes a difference in the pay roll at the rate of 65 million dollars a year.

Senator La Follette added, "Wages paid railroad employees are not responsible for the present high rates of freight, but the Esch-Cummins railroad law is responsible." In spite of the reductions in wages that have been made since 1920 and the reductions of the number of employees due to in-

creased efficiency of operation, the pay roll of the railways in 1923 was 200 million dollars more than in 1919, 430 million dollars more than in 1918, \$1,304,000,000 more than in 1917, and \$1,575,000,000 more than in 1916. And yet Senator La Follette, in seeking the votes of both railway employees who desire to get their present wages increased and the farmers who desire lower freight rates, has the affrontry to say in a public address, "wages paid railroad employees are not responsible for the present high rates of freight, but the Esch-Cummins law is responsible." With railway employees receiving 57 cents out of every increase of one dollar in earnings that occurred between 1916 and 1923 owing to both advances in rates and increases in traffic, Senator La Follette says in effect that present railway wages have nothing to do with present railway rates. This is one of the finest examples of a demagogue running amuck we have ever seen.

Assigned Power and Long Runs

THE ARTICLE in this issue by E. Von Bergen will strike a responsive chord in the minds of many mechanical department officers. It is not often that so strong a case has been made for the assigned power policy as that set forth by Mr. Von Bergen, and its greatest element of strength lies in the fact that this is one of the well-defined policies of a strong and effective management. The general adoption of pooling met with much opposition on the part of mechanical department officers, and there are undoubtedly many who are still unconvinced that this practice actually increases the utilization of power, which is its only justification. Showings have been made when power which formerly had been operated under the assigned policy was first pooled, but it has never satisfactorily been established that, as a general policy, pooling does not in time lose the advantage gained at the outset, through the more frequent shoppings and the increased time out of service for heavy running repairs which result from the quite common neglect of minor defects characteristic of the pooling system.

The facts set forth in the article strongly indicate that with the regular assignment of locomotives it is possible to obtain a greater and more efficient utilization of power than is now being obtained under average conditions in this country.

But while the figures showing the average annual mileage per locomotive owned and the maintenance cost per mile indicate a condition with which the Illinois Central may well be satisfied, they are not convincing that under all conditions assigned power will obtain greater utilization at less cost than could be obtained by increasing the length of locomotive runs beyond a single crew district, even though this in a measure sacrifices one of the advantages of the assignment policy—the keen personal interest of each crew in the maintenance of its own particular locomotive. The general averages, such as those set forth by Mr. Von Bergen, are the result of many varying conditions other than a difference in the method of utilization. There is, for instance, the question of branch line mileage which affects the comparability of the averages of different railroads; there is the question of the relative volume of business handled by different railroads in a given year which may cause the record mileages of different systems to fall in different years; there is the attitude of the management toward the maintenance of its power. Such a comparison, therefore, cannot be taken as final in determining the relative value of a single difference in policy.

There can be little question but that the cost of maintaining locomotives per unit of service decreases when a high standard of maintenance is in effect and defects are cared

for on their first appearance before they have time to assume proportions which call for comparatively heavy expenditures to remedy them. It is also generally accepted that the interest of the assigned crew in seeing that defects are remedied promptly, exerts a considerable influence on maintenance standards. This interest, however, is not the only factor which determines the standard of maintenance. The attitude of the management is of great importance and has much to do with the final result, whether locomotives are operated on an assigned basis or in a pool.

The extensive application of long runs as a general utilization policy is of comparatively recent development and, no doubt, in some cases has suffered from the over-enthusiasm of its adherents. It is not a panacea and it has limitations. The success of the long runs depends on the establishment of a high standard of maintenance and even though they involve some of the elements of pooling, they must necessarily reap some of the benefits in reduced unit costs of maintenance which follow a tightening of maintenance standards. Their possibilities under proper conditions are great enough to warrant a continued effort to determine in actual practice what are their limitations and to establish them within the field of their economic usefulness.

A New Passenger Terminal

ALTHOUGH the plans are yet in a stage of development, the general scope of the Pennsylvania's proposal for a new terminal at Philadelphia has been publicly stated and one is enabled to get a fair idea of the marked changes which this road expects to make in co-operation with the city. Speaking recently, before a meeting of business men called by the Philadelphia Chamber of Commerce, W. W. Atterbury, vice-president, said that the city and the railroad had worked out a scheme which would provide proper facilities for the railroad and at the same time would greatly assist the city in carrying forward its improvement and beautification program.

Briefly stated these changes, among others, contemplate the erection of a new station for through passenger traffic on the west bank of the Schuylkill river, in West Philadelphia. A combination of loop tracks will be used to secure through movement in either direction. Suburban traffic will pass through on an upper level and will be brought into the city in a subway, served by an underground station located in the general vicinity of the present Broad street station. This means extension of the electrified suburban zones with the probable expansion in the future to include electrified lines to Washington and New York. The old station and approaches which are located above the surrounding street levels will be removed, although the present office building will be retained. The removal of the approaches regularly referred to by Philadelphians as the "Chinese Wall" will open up a tract of land of approximately 20 acres for future city development which should not only be a considerable factor in itself to city betterment, but which should also have a marked effect upon the surrounding real estate. The entire project is an excellent example of what can be done when railway and civic officers really get together to work out a problem, the solution of which is of real benefit to the interests which both represent.

While this phase of the Philadelphia terminal project is of particular interest there is also the technical side of the problem concerning the station and the track layout, the way traffic will be routed, etc., which will probably have a still closer appeal to the interest of railway men. Thus the completion of the plans will be looked forward to not only by executives who must deal with the public but by operating and designing officers as well.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

America—the Great Adventure, by George P. Krapp. In Book 4, "Expansion and Growth," there is a chapter on highways, steamboats and railways. Other mention of railways is in the section "The Fruits of the Earth" discussing natural resources, their location and utilization. 406 p. Illustrations. Pub. by A. A. Knopf, New York. \$4.00.

Coal in 1922, by F. G. Tryon and S. A. Hale. "Mineral resources of the U. S., 1922—Part II (Pages 439-669). Published October 2, 1924." Pub. by Govt. Print. Off., Washington, D. C. Apply to U. S. Geological Survey, Washington, D. C.

Facts Which No Man Can Dispute, by James C. Davis. Discusses present railroad situation. 4 p. Distributed by Comm. on Public Relations, Long Island Railroad Co., New York City.

The Revival of Europe, by Horace G. Alexander. In Chapter III, there is an account of the work of the League of Nations in stabilizing and improving transportation and communication in Europe. 215 p. Pub. by H. Holt & Co., New York. \$2.25.

With Lawrence in Arabia, by Lowell Thomas. Chapter XI, "Lawrence, the train wreck," contains Col. Lawrence's exploits along the Hedjaz Railway in the Near East Campaign, while in other chapters are accounts of German construction of railways through Arabia before the war, and English construction during the war. "He had dynamited Turkish trains passing along the Hedjaz Railway with such regularity that in Damascus seats in the rear carriage sold for five and six times their normal value". p. 139. 408 p. Illustrations. Pub. by Century Co., New York. \$4.00.

Die Diesel-Elektrische Lokomotive, by Professor G. Lomonosoff. A richly illustrated book descriptive of the Diesel-electric locomotive and its performance. 9 in. by 12 in. 186 pages. Bound in paper. Published in German by the Verein Deutscher Ingenieure Verlag, Berlin, S.W. 19, Germany. Price, 20 Marks.

Die Zeitgemässe Heissdampflokomotive (The Modern Superheated-Steam Locomotive), by Dr.-Ing. e. h. Robert Garbe. This well illustrated work gives an up-to-date account of the best European achievement in this branch of mechanical engineering. The author is a recognized authority, being the author of the standard two-volume work "Die Dampflokomotiven der Gegenwart". This book has 167 pages, 7¾ in. by 10¾ in. Bound in cloth. Published in German by Julius Springer Verlag, Berlin, W. 9, Germany. Price, \$3.35.

Periodical Articles

Changes in Financial Structure and Financing Operations of Railroads Since 1913, by F. E. Richter and George A. Boyd. Harvard Business Review, Oct., 1924, p. 54-68.

Improving the Iron Horse. Editorial comment on needs for research by railways. Independent, October 11, 1924, p. 243.

Problems of Public Utility Rate Regulation and Fair Return, by C. O. Ruggles. Journal of Political Economy, October, 1924, p. 543-566.

A Proposal for An International Trade Union Congress. Editorial comment on program advanced by British trade union congress which includes government ownership of public utilities. Commercial & Financial Chronicle, Oct. 18, 1924, p. 1781-1782.

Pulverized Fuel for Canadian Locomotives, by A. J. T. Taylor. Engineering Journal [Canada], October, 1924.

Letters to the Editor

Whistling and Other Crossing Safeguards

NEW YORK CITY.

TO THE EDITOR:

As the grade crossing problem continues confused and unsettled you will not expect an apology if I venture to refer again to some of the simple but neglected questions that ought to receive the attention of operating officers. I might say operating officers and presidents; for every comprehensive discussion "runs into money"—big money; and the lower officers do not feel very bold in making expenditures in this line unless they have the cordial and immediate co-operation of the president.

The supplementary whistle signal from the locomotive ought to be considered. It ought to be more generally used—or at least its virtues more generally recognized. Many an engineman could, no doubt, tell of lives saved by his giving an additional blast after seeing an automobilist approaching a crossing unconscious of his danger. Why not have the usual signal—two "long" blasts followed by two short ones—which, according to law, is given at a point a quarter mile before the crossing is reached, repeated at one-eighth mile from the crossing?

One thing that all sensible persons know that they do *not* want, if they have any reasonable comprehension of the ramifications of the problem, is the long-drawn-out whistling that is in vogue on some of the far western railroads. How it is that the citizens, whether in city or rural districts, cheerfully put up, all the time, with whistle blasts lasting 20 seconds—or even of nine seconds, said to be the practice on the Chicago & North Western—is a puzzling mystery.

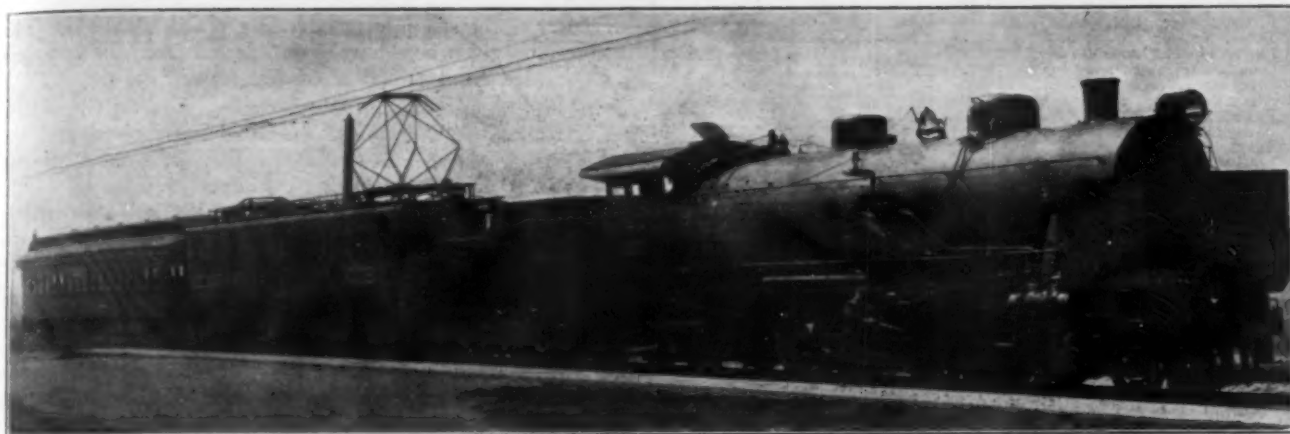
Of course, every engineman, without any advice from outsiders, will instinctively sound his whistle at any time or any place if he sees a person approaching the track carelessly; but in the numerous cases where an auto is approaching behind a house or a row of trees and the engineman does not see it, the habitual second whistle would be an added element of safety.

The bend in the highway, illustrated in *Railway Age* of September 27, page 561, is a very sensible expedient which ought to receive more attention than has been given to it thus far.

Your description says that a committee of the American Railway Association has taken action, looking to the general introduction of this device; but it does not as yet appear that much progress has been made. Judging by the general interest in the subject among presidents, directors and *everybody*—not alone the officers immediately responsible for safety—one would say that the full convention of the American Railway Association ought to take up this branch of the problem. Either the bend, or the hump, in the road, would be a comparatively simple device. What is needed is to get all hands—railroad officers, city officials and state executives and legislators—aroused to an active interest so that all may expend their thought and energies in a uniform direction.

Two important preliminary questions ought to have a general discussion without delay, and these might well be taken up in your columns—(1) What is the cost of such arrangements as that in Delaware, described in the *Railway Age* and, (2) Who are to be the objectors?

EXECUTIVE.



Three-Cylinder Mikado and Electric Locomotive on Test Track at Erie, Pa.

Unusual Method of Testing Steam Locomotives

Drawbar Pull of Three-Cylinder Mikado Determined by Regeneration on Electric Locomotive

THE USE OF THE regenerative braking feature of an electric locomotive for determining the drawbar pull of a steam locomotive is a somewhat novel scheme. On account of the unusual design of the three-cylinder locomotive built for the South Manchurian Railway, the

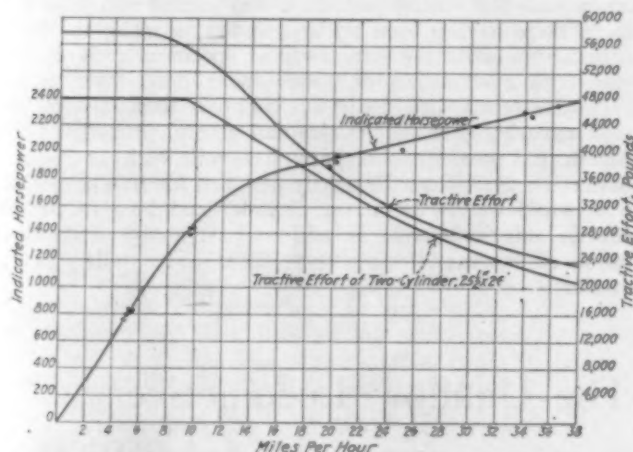


Fig. 1—Chart Showing Indicated Horsepower and Tractive Force of Three-Cylinder Mikado and Theoretical Tractor Force of Similar Two-Cylinder Locomotive

American Locomotive Company was particularly interested in securing accurate tests for determining the mechanical efficiency at various speeds, cut-offs and loads.

An arrangement was made to use the test track and facilities of the General Electric Company at the Erie, Pa., works for these tests. The electric locomotive used was one of ten units built for the Mexican Railway Company, Ltd., which at that time happened to be ready for shipment. This locomotive was designed to operate from a 3,000-volt direct current trolley and equipped with the regenerative braking feature for the purpose of holding back trains on the four per cent grades between Mexico City and Vera Cruz.

Because of the well recognized accuracy of electrical in-

struments, it was possible to determine the draw bar pull being exerted by the steam locomotive much more accurately than by the use of mechanical measurements. In order to calculate the load for each run, recording and indicating instruments were used reading the total line current, speed and voltages. Speed was indicated on a tachometer in the cab and was also checked by an electrical instrument recording wheel revolutions. From the characteristic curve of the motors it was possible to calculate accurately the electrical losses in the locomotive. The friction losses of the locomotive were obtained by experimental runs. Corrections were also made for grade and curvature.

An interesting check was made on the calculations by using one electric locomotive motoring and the other regenerating giving in effect a pump-back test in which the substation supplied the losses. A number of runs were made at between 5 and 28 m. p. h. By means of voltmeter and ammeter readings, the total output of the locomotive when regenerating was calculated and, making allowance for known losses and compensation for friction and curve losses, the actual drawbar pull was determined.

Some of the principal dimensions of this three-cylinder locomotive are given in Table I, which follows:

TABLE I—DIMENSIONS, WEIGHTS AND PROPORTIONS

Type of locomotive.....	3 cyl.—2-8-2
Track gage.....	4 ft. 8 1/2 in.
Cylinders, diameter and stroke.....	22 1/2 in. by 26 in.
Valve gear, type.....	Walschaert
Valves, piston type, size.....	12 in.
Weights in working order:	
On drivers.....	194,200 lb.
On front truck.....	25,000 lb.
On trailing truck.....	48,800 lb.
Total engine.....	268,000 lb.
Tender.....	135,000 lb.
Wheel bases:	
Driving.....	15 ft. 10 in.
Total engine.....	34 ft. 2 in.
Total engine and tender.....	62 ft. 7 1/4 in.
Wheels, diameter outside tires:	
Driving.....	54 in.
Front truck.....	33 1/4 in.
Trailing truck.....	44 in.
Journals, diameter and length:	
Driving, main.....	10 in. by 12 in.
Driving others.....	9 in. by 12 in.
Front truck.....	6 1/2 in. by 12 in.
Trailing truck.....	8 in. by 14 in.
Boiler:	
Type.....	straight top
Steam pressure.....	180 lb.
Fuel, kind.....	bituminous
Diameter, first ring, inside.....	80 in.

Firebox, length and width	114 1/4 by 84 1/4 in.
Tubes, number and diameter	245, 2 in.
Flues, number and diameter	42, 5 1/4 in.
Length over tube sheets	18 ft. 6 in.
Grate area	66.8 sq. ft.
Heating surfaces:	
Firebox	217 sq. ft.
Arch tubes	29 sq. ft.
Tubes	2,361 sq. ft.
Flues	1,088 sq. ft.
Total evaporative	3,695 sq. ft.
Superheating	945 sq. ft.
Comb. evaporative and superheating	4,640 sq. ft.
Tender:	
Water capacity	6,000 gals.
Fuel capacity	12 tons

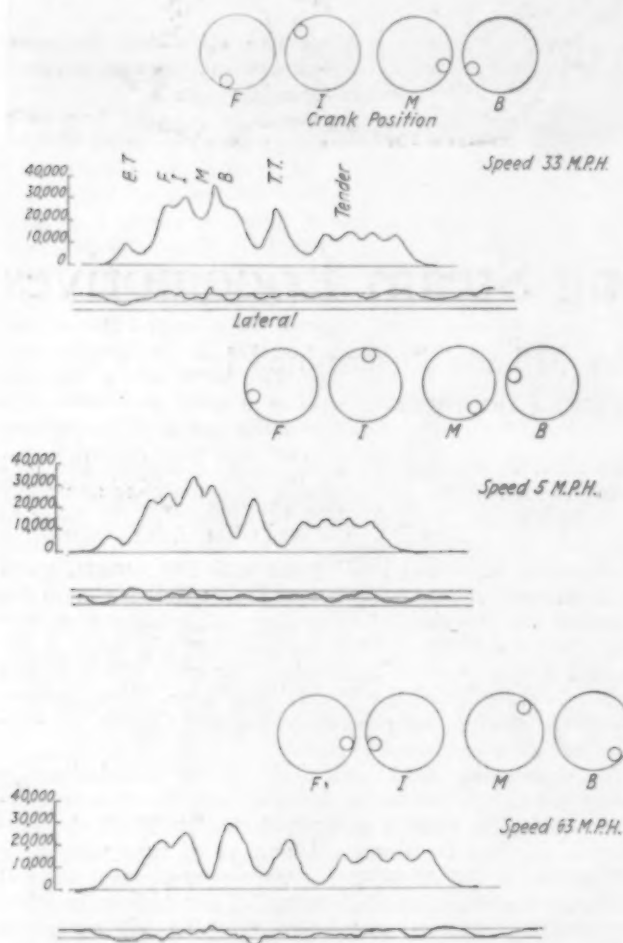


Fig. 2—Otheograph Records Showing Track Reactions

Rated tractive force, 85 per cent	56,000 lb.
Speed at 1,000 ft. piston speed	37 m.p.h.
Weight proportions:	
Weight on drivers ÷ total weight engine, per cent	72.5
Weight on drivers ÷ tractive force	3.47
Boiler proportions:	
Firebox heat. surface ÷ grate area	3.25
Firebox heat. surface, per cent of evap. heat. surface	5.9
Superheat surface, per cent of evap. heat. surface	25.6

Detailed information showing drawbar pull as obtained from the electric locomotive and the resulting mechanical

efficiency of the steam locomotive is given in Table II. The test records given here have been selected from the complete data secured from a total of 65 test runs.

In Fig. 1 have been plotted curves showing the actual tractive force as well as the indicated horsepower, and the third line gives the theoretical tractive force of a similar two-cylinder locomotive having cylinders 25 1/2 in. by 25 in. and a factor of adhesion of four which is considered a normal minimum for two-cylinder locomotives. It is apparent from the curves that the expected capacity of the locomotive was exceeded at the very low, and also at the higher speeds.

Otheograms taken at three different speeds are shown in Fig. 2. Although the locomotive was tested without the customary breaking in, there was no indication of heating at any time, even when the speed was forced up to 63 m.p.h., the equivalent of a piston speed of 1,700 ft. per min. At this speed there was no indication of rough riding in the cab and the records of the otheograph indicate remarkable lateral steadiness, or freedom from nosing, a maximum lateral thrust of 5,000 lb. being observed. The otheograms shown in Fig. 2 illustrate the track reactions at 5 and 33 m.p.h. from which it may be noted that the lateral rail thrust at 33 m.p.h. is 3,000 lb., indicating that the 5,000 lb. obtained at 63 m.p.h. corresponds to great lateral steadiness at this speed.

The rapid acceleration of this locomotive as compared with the two-cylinder type was just as much in evidence as in the previous three-cylinder locomotives built, indicator cards at full piston stroke showing admirable starting conditions.

A slight irregularity in the valve setting appeared in the indicator diagrams, due to the fact that these cards were taken with the setting just as it was turned out from the shop, there having been no opportunity to make the final adjustments before the tests. Even so, specimen cards showed very good equalization of power under the circumstances, and there seems little doubt but that this locomotive is the most remarkable one of its size and general proportions the American Locomotive Company has built both as regards power and flexibility. Primarily designed for freight service, with small wheels 54 in. in diameter and long maximum cut-off, this locomotive is said to have easily attained a speed of 63 m.p.h. with only about a two-mile run to accelerate.

The Unaflo Locomotive— a Correction

THE AUGUST 23, 1924, ISSUE of the *Railway Age* contained an article by Prof. J. Stumpf describing the Unaflo locomotive. Fig. 1 in this article was referred to in the caption as being a theoretical indicator card. It is not a theoretical card but is an analysis of an actual indicator card which was taken in tests on the locomotive.

TABLE II—SELECTED TEST RECORDS SHOWING DRAW BAR PULL AND MECHANICAL EFFICIENCY

Speed, m.p.h.	Cut-off, per cent	Boiler pressure	I. hp.	Ind. tractive force	Curve and grade resistance	Draw bar pull from electric loco.	Resistance of engine and tender		Mech. efficiency per cent
							Lb. at draw bar	Hp.	
5.45	83.1	180	854.8	58,800	1.050	47,684	10,066	146.3	82.9
10.41	79.0	180	1,540.4	55,500	.....	49,319	6,180	171.6	88.9
14.76	49.5	180	1,583.9	40,240	.....	35,219	5,020	197.6	87.5
15.07	72.8	173	1,364.5	33,950	1.220	30,135	2,595	104.5	92.3
14.75	22.8	180	898.7	22,850	.....	18,319	4,530	178.2	80.1
25.45	72.3	181	1,773.3	26,640	.....	24,319	2,320	157.5	91.3
30.50	54.5	177	2,200.0	27,050	.....	21,619	5,430	441.6	79.9
34.00	49.8	178	2,284.3	25,200	.....	17,599	7,600	689.0	69.8
34.20	45.5	179	2,177.7	23,880	1.050	17,304	5,530	504.3	76.9
33.40	22.3	180	1,408.4	15,810	1.050	11,384	7,490	667.1	78.6

Good Results Obtained with Assigned Power*

Illinois Central Locomotives Make High Yearly Mileage at Low Maintenance Cost Per Mile

By E. Von Bergen

Air Brake and Lubrication Engineer, Illinois Central, Chicago

LAST YEAR AT THE TRAVELING ENGINEERS' convention I listened to the paper on long locomotive runs and, as I recall it, everything said was in favor of running engines over several divisions. The paper extolled the merits of such a system of handling engines and set forth vast savings that could be and were being effected by this policy.

After listening to the paper and the subsequent discussion, the natural conclusion which anyone would draw was that the quickest way for a railroad to make a lot of money and obtain much greater service from engines at lower cost would be to begin immediately running engines over several divisions. Before becoming converted to such a proposition I decided to look into the performance of various railroads which have been widely advertised in the railway publications as having accomplished great things by running engines over several divisions. I wanted to find out in just what respect their handling of power was superior to the method used by the Illinois Central. On this railroad locomotives are assigned to run only on each division; enginemen and firemen are assigned to regular engines; some passenger runs, termed "blanket runs," extend over two divisions, a total of 235 miles, but the engineman and fireman assigned to the locomotive run through with it. This has been the practice of the Illinois Central for many years. Through all the clamor and propaganda purporting to show the benefits of pooling locomotives, we have held steadfast to the policy of assigned engines to regular enginemen and firemen.

The same argument that has always been advanced in favor of pooled engines is now advanced in favor of running them over several divisions, i. e., that railroads have a lot of money invested in locomotives; a locomotive earns money only when it is making miles; it earns nothing standing still. If this money invested in locomotives is to earn the greatest return, the power must be kept moving. Therefore, it is poor policy to let it stand idle while crews are taking their rest, or in the present proposition, to let it stop at a terminal at all as long as it can be kept moving.

Value of Pooled Engines Questioned

The premises of this proposition are sound. I fully agree that engines earn a return on the investment only while they are moving, and that any comparisons drawn should be based on the average miles per engine per year, obtained by any railroad. But the conclusion so many railroad men have reached, that pooling engines, or running engines over several divisions, is the way to obtain the greatest mileage, is entirely wrong as I will prove by comparative figures.

No doubt, many have been misled on this proposition because the advocates of pooled engines, or long runs, in presenting locomotive mileage figures, have not taken into account the engines lying idle receiving repairs, or awaiting repairs. They lose sight entirely of the fact that any locomotive requires a certain amount of maintenance, and this amount increases in proportion to the lack of interest taken in the machine by the engineer. Enginemen operating pooled locomotives take very little interest in them, while

enginemen with regular engines look upon them the same as personal property. The increased maintenance required for the pooled engines means more idle time.

After all the smoke of arguments in favor of long runs has cleared away, such as reduced forces required to turn engines, fuel saved firing up, etc., (which is all theoretical, the reduction in forces being an insignificant factor and the fuel saved firing up being offset by excess fuel used maintaining steam pressure with dirty fires), the only real object which remains for running engines over several divisions is to reduce the number of locomotives required on a railroad; in other words, increase the mileage obtained per engine which means increased earnings on the investment in each locomotive. To find how this works out in practice, the only way to determine what is actually accomplished is to consider the total locomotive miles and total locomotives on any railroad in a given year, and then determine the average miles per locomotive per year. This comparison will disclose the actual accomplishments under various systems of handling power, whereas, citing a few engines on a few runs determines nothing.

Locomotive Mileage High and Maintenance Cost Low

Upon drawing a comparison between the Illinois Central system including the Yazoo and Mississippi Valley, operating assigned engines and several other roads operating engines over several divisions, I found that during the years 1922 and 1923 the Illinois Central obtained more miles per engine, and at a lower maintenance cost, than any of them, as the figures in the table will show.

COMPARATIVE LOCOMOTIVE UTILIZATION AND MAINTENANCE COST
1923

Railroad	Engines owned	Total locomotive mileage	Average miles per engine per year	Maintenance cost per engine mile
Illinois Central	1,790	58,060,076	32,436	26.53 cents
New York Central	3,440	90,599,869	26,337	29.64 cents
Big Four	912	28,959,509	26,304	30.97 cents
Union Pacific	1,026	30,948,254	30,164	30.62 cents
Santa Fe	2,123	62,586,439	29,480	36.00 cents
Frisco	976	27,078,813	22,744	37.05 cents

1922

Illinois Central	1,746	52,768,806	30,222	23.60 cents
New York Central	3,381	75,250,952	22,257	25.03 cents
Big Four	926	22,398,060	24,188	25.21 cents
Union Pacific	1,895	50,765,729	26,684	30.95 cents
Santa Fe	2,142	57,674,351	26,925	32.16 cents
Frisco	951	24,275,388	25,526	36.00 cents

This proves conclusively that the Illinois Central not only earned a greater return on its investment in locomotives, but in addition saved a large sum on maintenance. During the year 1923, had the maintenance cost been as great as the lowest of the roads compared with, it would have cost the Illinois Central \$1,805,668.36 more to maintain its locomotives than it did cost. Had the maintenance cost been as great as the highest compared with, it would have cost \$6,107,919.99 more for the year 1923.

The advocates of long locomotive runs assume that with such a system money will be invested in locomotives only to the extent that barely sufficient passenger and freight locomotives will be owned to handle the passenger and freight trains, thus reducing the investment required. This is impossible. In passenger service the number of trains on many roads fluctuates largely at different seasons of the

*A written discussion by Mr. Von Bergen presented at the thirty-second annual convention of the Traveling Engineers' Association, held September 16 to 19, inclusive, at Chicago.

year. There are also special trains or additional sections operated. Therefore, a sufficient number of locomotives must be owned to take care of these extra trains. Under a long run, or pool system, a number of locomotives lie idle when only regular trains are operated, while the remainder are turned as rapidly as possible. Under the regular assigned system on the Illinois Central, when an emergency arises requiring the handling of an additional train, or trains, some regular engine is always available that can be used for a trip while the regular engine crew are laying over at their home terminal. Therefore, in reality, under a regular engine system the total ownership of locomotives does not greatly exceed that with pooled engines under a long run system. It is merely a matter of keeping the greatest possible percentage of engines in service at all times, and the maintenance cost per locomotive mile on the Illinois Central compared with other roads proves this policy very economical.

Enginemen Take Personal Interest in Assigned Power

This economy is possible largely on account of the personal interest and pride of the engineers in their regular engines. It is practically equivalent to having a road foreman on every engine every trip. These enginemen insist on every defect, no matter how small, being corrected by the shop forces immediately as they develop and the old proverb: "A stitch in time saves nine" applies to nothing more forcibly than to locomotive maintenance. A defect costing one dollar to repair today may cost twenty dollars or a hundred if neglected until the next trip. The personal interest in their regular engines expressed in the words, "my engine," is worth millions to the railroad. It follows that with repairs looked after so closely, when a locomotive is started from a terminal it is in condition to make a successful trip. I have personally operated locomotives under both the pool and regular engine plans, and I know from experience that under the pool system, enginemen take no interest in the engines and on this account it is customary to dispatch engines with minor defects existing that run up maintenance cost in the end.

Years ago, just after the sixteen hour law was enacted, we tried out on the division on which I was employed, the same scheme that is now advocated for long locomotive runs. It was a single track division, 160 miles in length. The division officers felt it would be impossible to make this 160 miles with freight trains within 16 hours, so they established a district terminal at an intermediate point on the division as a relay point. A crew arriving there was relieved, and another crew took the same engine and train through. Within a short time the engines were in the worst condition I had ever seen them, and the total time consumed over that division with freight trains was usually 25 to 35 hours. On that division today the same class of freight trains covers the division in 8 to 12 hours. Twenty-six miles of double track are in operation, but the greatest single factor in this improved operation is that, all locomotives being in high class condition, it is possible for train dispatchers to depend so thoroughly on their performance that accurate schedules and meeting points can be laid out.

No Saving in Locomotive Fuel

On the Illinois Central we would effect no saving in fuel by running locomotives past our present terminals. To avoid long coal hauls and greatly increased prices, we must of necessity use a grade of coal that contains a high percentage of clinkering elements on the greater number of our locomotives. Under the present system, when passenger engines arrive at a terminal, seven or eight minutes are required on the ash pit to remove the clinkers and, where engines lie over only two or three hours, the fire is banked with a few shovels of coal. If crews were changed and the

engines run through, the clinkers would increase so rapidly it would require far more coal to maintain steam pressure than is now used for banking the fire.

If men were brought from the enginehouse to the passenger station, which in many cases is a mile or more from the enginehouse, to clean the fire, the cost of their time and of removing the dumped fire from the track would be greater in proportion to the length of time away from their duties at the shop.

A certain amount of maintenance is required on each locomotive regardless of whether it runs over one division or six. Claims which have been advanced that the number of maintenance men were reduced when locomotives run through indicate only one of two things: either too many maintenance men were employed for the amount of work performed before the locomotives were run through, or maintenance was neglected after they were run through. The comparative maintenance costs shown indicate clearly that there is no economy in maintenance when running engines through.

Maintenance Standards Are Kept High

Locomotives on the Illinois Central are maintained at a high standard of efficiency. During the month of August, 1924, with an ownership of 1916 locomotives, of which 1816 were in service, making 4,305,261 locomotive miles, there were only 29 engine failures in all classes of service, or 148,457 locomotive miles per engine failure. This covered failures of any kind that resulted in a passenger train arriving at a division terminal over five minutes late, or a freight train more than twenty minutes late. The total train delay resulting from the 29 failures amounted to 38 hours and 22 minutes. With over 12,000 driving journals in operation, there were no hot driving journal bearings during the entire month.

The total hot bearings on locomotives occurring on the entire system during the month of August were as follows: Engine trucks, five; driving boxes, none; trailers, one; tender trucks, none.

I believe this locomotive performance will compare favorably with any and that it would be impossible to equal it, if we were pooling engines and running them over several divisions. Running engines over several divisions means pooled engines; the so-called assignment of certain engines to certain long runs also means pooled engines. The same principles are involved when seven or eight men run four or five engines as when thirty or forty freight enginemen run fifteen or twenty freight engines in pool freight service.

In the light of the facts I do not see how any one can consistently say that the Illinois Central would benefit by pooling engines and running them over several divisions.



P. & A.

The War in China

Employees' Part in Public Relations Work*

Good Service is Vital But Aggressive and Intelligent
Educational Work Must Also Be Promoted

By Robert H. Newcomb

Assistant to Vice-President, New York, New Haven & Hartford

THIS MATTER of public relations is as broad as the combined activities of any railroad. It is not possible to think of any railroad activity which directly or indirectly does not have its effect on public opinion.

Second: it is equally impossible to conceive that any public relations' man can have co-ordinate jurisdiction with the head of every department.

Third: no man can hope to be of service in public relations work until he has mastered more than the superficial details of railroad management.

Fourth: no cause can long hold public favor if an attempt is made to support it with anything less than the full truth.

Fifth: all the world respects the man who knows, feels that he is in the right and has the courage properly and intelligently to support his cause in time of controversy.

Sixth: and in this I express my own views exclusively and expect to be heartily disagreed with, every employee of every railroad in the country should be so trained as to be the public relations man of his organization.

Objectives of Public Relations Department

Those planks then are our platform. Each is important and each may well be made the subject of a separate discussion. Before taking them up in detail let us consider just what a public relations department should be and should do. It should not be a press agency and yet it should include publicity activities. It should not be degenerated into an advertising bureau and yet it should handle all the advertising that is done by the railroad. It should not be the sole mouthpiece of the organization and yet it should exercise an editorial oversight in all cases of public utterances. It should not usurp the authority of a department of personnel and yet its most valuable work can be done among employees. It should not be subordinated to any single department and yet it should co-ordinate the work of all departments where they affect public opinion. That is my conception of public relations work. You may agree with me that Stevenson's phrase, "Here is a task for all that a man has of fortitude and delicacy", might easily apply to the condition outlined.

It is easy enough to make general statements but not always so simple to apply them to actual conditions. What is the objective of a public relations department? It is to see that the things done by a railroad are such things, done in such a way, as will work to the benefit of the railroad and at the same time with as small a disturbance of the public mind as may be. That brings us to the direct discussion of the several planks in our platform.

It is not necessary to draw on the imagination to support the first proposition. It is perfectly natural that each department should come to feel that without it there could be no railroad. The operating man is convinced that unless he is allowed to manufacture the greatest number of salable transportation units with the absolute minimum of production units then there can be no success. The traffic man is willing to accept that general proposition as sound but he is equally insistent that there is an unproductive element of service which must be considered or his efforts to sell transportation will fail. The legal representative sees all sorts of complica-

tions in the way of both. The engineer insists upon the most conservative of standards. The accountant knows that without him and his careful work we, none of us, would know whither we were tending, while the purchasing and stores man is forced to act the role of a miser. And each is as sincere as he can be and is constantly striving for the same end. It is all quite as it should be, but it does not serve to lighten the worries of the public relations man. It is obvious, also, that each department chief must be the chief of his department.

Expert Guidance Needed

All of which makes the third plank in our statement of principles the most essential of the lot. Perhaps the saddest thing in the railroad world is to witness the earnest, honest efforts of some splendid young man, fresh from reportorial success, floundering in the morass of departmental details in a futile effort to interpret them properly first to himself and later to an interested public. The job cannot be done that way. When a man is found who is qualified by disposition and temperament to deal with that complex and insistent thing we call public opinion he should be given an intensive course of railroad training over a period of years. Otherwise he will vary as a weather vane with every departmental or public suggestion that blows across his mentality. And once he has learned something of the art, science and mystery of his trade then he must strive always to hold his perspective, and it is not easy always to weigh correctly either the seriousness of public clamor or the soundness of managerial policy as it affects public opinion. If one could always say "Yes", life would be one long, sweet song. Just at present that is the one word nearly lost from the railroad vocabulary. What we have to learn is the least unattractive way to say "No".

Let us then assume that we have a public relations man who is well founded in the principles governing the successful conduct of the railroad business. And we will assume also that he has the necessary sensitiveness to changing public opinion. From the standpoint of success of his mission there is but one way to meet the requirements of the first three planks in our platform. That man must be invited to sit in as an adviser on all conferences where service or policy changes are being considered. His advice should be sought and his opinions given weight. Only through this method can satisfactory results be accomplished. For too many examples of the truth of this proposition could be cited. Unfortunately they are arising every day. We are still too prone to create situations we do not appreciate, laugh at honest suggestions regarding their effect, and then, when the inevitable occurs retire from the impossible position at the first show of opposition, while at the same time we expect our ignored public relations man to hold favorable public opinion. The surest way to lose that most valuable asset, a kindly disposed public, is to threaten in haste and then retreat in even greater haste. It is close to suicide to proceed with that sort of discredited program. The worst feature of all is that such a procedure is so unnecessary. A series of conferences, during which all the details of a given plan can be considered, will set out in everybody's mind just what must be done from a financial standpoint. The question of service can be settled with that necessary end in view. Then your public relations work can be conducted with some degree of success,

* From an address before the New York Railroad Club, October 17, 1924.

because any public will respond favorably to a well thought out and properly explained change in the cause of economy.

The best treatment for a crisis is avoidance before the event rather than a course of action which permits the crisis to arise. It is small wonder that in our international affairs we permit things to drift into complications which could be avoided by intelligent study, when in our local business activities we pursue exactly the same course and then appear completely astounded when action based on ill-considered judgment results in public uproar.

Perhaps too much time has been devoted to the first three planks of our platform. Perhaps I have appeared unnecessarily vehement in my reference to co-operative action where public relations are involved. Experience is a severe teacher, however, and if as a result of anything said here others are spared the experiences which I have enjoyed, what I have said will have accomplished its purpose.

Let us proceed, then, to a consideration of the fourth proposition which is that public relations to endure must be based upon the truth, and it may be that we can include the fifth at the same time, that having reference to the world's sympathies being with those who fight for what they honestly believe to be the truth. It is trite to repeat that the true foundation of public relations is education, and that when the veil of mystery is removed from the transportation industry no complications as serious as those resulting from lack of understanding can ever arise. However carefully one puts forth one's convictions there will always be those who honestly disagree, but honest disagreement is not to be confused with prejudice based on misunderstanding.

In the educational work which the public relations man must undertake the time has long since passed when anything short of truth will serve as a proper foundation. There are those who hold the theory in public relations that if railroad service is satisfactory it speaks for itself, and if it is not satisfactory no amount of public relations work can alter hostile public opinion. There may have been a time when that theory was sound. Today, however, when exponents of schools on political thought are hard at work in an endeavor to convince the people that, for example, the transportation act should be repealed because they think it is economically unsound, it is no longer enough of an answer to such arguments so advanced, to trust purely in the belief that railroad service is satisfactory. Here is the time when those of us who know, and we must be very sure that we do know, are facing the positive obligation of setting forth clearly, intelligently and with vigor, our belief in the fallacy of the doctrine of silence.

There are plenty of other angles of the problem beside the one mentioned to which the same reasoning applies. You are as well aware of them as I am, and it is not the specific instance in which I am interested but the method in which each specific instance is handled.

As to the best way to get educational material before the public there can be no hard and fast rule. What is best for one section must be much less desirable for another. Personally I am a great believer in the spoken word. My advice to any railroad organization would be to train a group of speakers from the ranks of its employees, and so arrange that those speakers would and could respond to any invitation to discuss the transportation problem locally or nationally regardless of the size of the audience.

The world admires, responds and listens to an honest man speaking his honest convictions. Such a man is the railroad employee discussing the conditions of his employment. The world is inclined to look with suspicion when one outside of a given line attempts to advocate that line for hire. He may be as honest and he may be much more capable than the railroad employee doing the same work, but the effect is not at all the same when he is solicited by the railroad to undertake its educational burden.

In certain sections of the country a policy of advertising has been carried on very successfully in connection with public relations work. That it is a splendid thing when properly handled there can be no doubt, but that it can be applied equally to all sections of the country is a matter regarding which I have not as yet been convinced. Differing neighborhoods with their varying population distribution offer distinct problems, and they also present varied advertising costs. What can be done in one section for \$1,000 might be expected to cost many, many times that in another section of the same geographical area. To attempt to lay down an ironclad rule for successful conduct in this type of public relations work would be to deny the fact of the individual characteristics of the varying sections of this great nation of ours.

Education, then, based upon the truth, and the truth earnestly and forcibly presented in the face of opposition (and insofar as possible an offensive education campaign rather than a defensive educational campaign) I believe lies at the very root of successful public relations work.

The case of the highway competition from the truck and the bus is one directly in point. Here we have waited until the crisis has arisen, and I realize fully the reasons behind the delay in taking action, until today we are faced with a situation that is going to demand careful, yes delicate handling before public opinion is won back to the cause of existing transportation agencies.

The last plank of the platform, as I said, is distinctly my own. I hold firmly to the belief that every railroad organization should devote its attention to the education of its own employees and the problems that it has to face until each employee is in a position to discuss intelligently and authoritatively those problems wherever and whenever the opportunity for such discussion may arise. I realize the pitfalls that open before one that attempts to advocate such a proposition. I realize that in a multitude of unleashed pleaders there may be all the elements of confusion, but I insist (and here I speak for no-one but myself) that education properly carried on in any organization can avoid that pitfall, as it can avoid all of the other pitfalls, and will inevitably result in building up a loyal, interested force of employees, capable of dispensing with prejudiced public opinion.

There never will come a time when all the people of the United States will agree on any question, not even the question of the value of railroad transportation. As I have said before, however, honest disagreement based upon understanding of the same facts, is quite a different matter than permitting things that are not so to become fixed in people's minds to the extent that they are accepted as facts and work to the detriment of any honest cause.

There are many other phases of public relations work which could be gone into. I believe an employees' magazine, properly edited, and circulating as it is bound to do in unexpected and unusual channels outside the realm of railroad employment, can do a lot of good, or improperly edited work a lot of injury. To sum up, the public relations man should be, as is my respected superior, a man of long railroad service to whom there is no mystery in the railroad business, and for whom there is no "bug-bear" in proper public activity. He should be actively consulted and his judgment accepted before any matters affecting that same public have become an accepted policy. He should insist upon education within and without his organization based upon nothing but the truth, and however great the clamor he should never be afraid. Both the spoken and the printed word should be availed of according to the exigencies of the location. In cases of unfair competition such as steam and electric railroads are contending against at the present time, an open, aggressive campaign for the correction of unfair practices should be waged. Once these unfair practices are eliminated the question of the life of both the existing transportation organizations becomes then dependent on service. That fact must be recognized and must not be lost sight of in any educational campaign.



Meeting of Younger Men's Division, International Railway Y. M. C. A., St. Louis, Mo., November, 1923

A Movement in the Interests of Railroad Boys

Real Results Have Been Achieved in the Eleven Months
Following the St. Louis Conference

LESS THAN A YEAR AGO—November 1923, to be exact—the first Railroad Younger Men's Conference of the Y. M. C. A. was held at St. Louis in conjunction with the Sixteenth International Conference of the Transportation Department of the Young Men's Christian Associations. It was largely in the nature of an experiment and was suggested by the successful operation of several American Railway Employed Boys' Clubs which had been inaugurated as part of the National Employed Boys' Brotherhoods. More than 150 older boys and young men from 26 states and Canada and representing 29 railway systems, were in session from Thursday afternoon, November 15, over the following Sunday. There were one or two joint meetings of the younger men with the men's conference which was in session at the same time and the program of which was devoted practically entirely to "Transportation's Fundamental Need." For a large part, however, the boys held their own meetings, emphasis in the program being placed upon the importance of character based upon Christian ideals, boys' vocational problems and the large question of human relationships on the railroads.



C. W. McLeod
Canadian Pacific, Chairman, International Railroad Younger Men's Conference of the Y. M. C. A.

Findings of the Conference

A committee was appointed to make a report of findings at the close of the conference; its report follows:

"After many hours of hard thinking and sincere discussion of our problems, we are able to report for your consideration our heartfelt needs for the future, believing that the discussions of this conference have revealed the undeniable fact that transportation's fundamental need of

today and tomorrow is men—men of real Christian character. It is a known fact that to provide such men we must enlist the present generation of older boys and young men in a definite Christian service and leadership.

"There are no better ways of accomplishing this great task than through the programs of our A. R. E. B. and Hi-Y Clubs. We therefore recommend, first, that the North American Young Men's Christian Associations establish clubs of this type increasingly wherever groups of boys and young men may be employed by the railroads or be living in railroad communities. Secondly, that special emphasis be placed upon the 'find yourself' plan of vocational guidance. Thirdly, that each member of this conference pledge to do his best individually to create and maintain a high standard of Christian character, in whatever situation he may find himself.

"Finally, that an international conference such as is now in session be held three years hence, and that in the interim, system conferences be held at such times and places as seem wise to the state and international Y. M. C. A. secretaries and to the officers of the conference."

A second annual conference of the younger men's group will be held at Detroit, Mich., November 14-17, 1924. It is expected that 300 of the boys and younger men employed by the railroads of North America will meet at that time with a group of internationally known leaders in work among boys and young men, as well as a considerable group of successful railroad officers and men, who will lend a helping hand wherever possible in conferring with the boys individually and in groups as to their special needs.

Practical Results of First Conference

It may be of interest to review some typical developments which have taken place during recent months as an outcome of the first younger men's conference. In a considerable number of instances the boys were asked to make reports when they returned to their home towns and this resulted in the formation of local American Railway Employed Boys' Clubs, or A. R. E. B. clubs as they are called. Local railroad officials in many cases were quick to grasp the possibilities of such clubs in helping and inspiring the boys better to prepare themselves for their life work.

During the month of January the young men who attended the St. Louis conference from St. Paul, Minn., had

a large part in arranging for a city-wide employed boys' conference. There are now four A. R. E. B. clubs in St. Paul. A state-wide conference of employed boys was held in Des Moines, Iowa, in January. The boys from Iowa who attended the St. Louis conference formed a railroad division of this conference; six or seven different roads were represented and this resulted in a livelier interest in the formation and promotion of A. R. E. B. clubs in that section of the country.

A delegate from Sheridan, Wyo., representing the Chicago, Burlington & Quincy, interested a group of boys in a "Find Yourself" campaign. These boys are meeting at frequent intervals and expect eventually to form an A. R. E. B. club. Three boys who attended the St. Louis conference from Great Falls, Mont., were also instrumental in bringing together a number of railroad boys of the Great Northern in Great Falls for a very successful "Find Yourself" campaign.

A great many of the boys at the St. Louis conference made forward step decisions. One of these young men from Texas on his return home volunteered to lead a group of younger, under-privileged boys in their activities and has been rendering a most helpful service in that way.

The mechanical department apprentices of the Santa Fe conducted a system conference at Albuquerque in March. This was promoted by the boys who attended the St. Louis conference and is reported to have been quite a success. Shortly after the St. Louis conference the board of directors of the Railroad Y. M. C. A. at Albuquerque, N. M., invited two of the boys who had attended the St. Louis conference to tell of their experiences. One of them in closing made this statement: "And on Sunday morning, when opportunity was given to make Forward Step decisions, I signed a card that I was going to cut out cigarettes. Now maybe you don't think that means much, but I have been smoking on an average of more than one package of Camels each day, haven't I?" he said, turning to his friend. "But I tell you, I haven't smoked since then and I'm not going to. You watch me."

A machinist apprentice from a western road, as a result of finding himself vocationally, is planning after the completion of his apprenticeship in the machine shop, to be transferred to another department where he will be able to utilize in a larger way his ability as an artist.

Possibly the effect of the conference on the boys may be best summed up in the words of Duncan Robinson of Cleburne, Tex., who responded to a request from the *Railway Age* for the impressions which had been made upon him, with the following notes:

Things at the Conference Which Impressed Me

By Duncan Robinson.

"During the Railway Y. M. C. A. Conference, held in St. Louis, many things transpired which impressed me. Above all I noticed the desire to serve on the part of all representatives. Both the officials and the men met on the same plane for a common cause—to discuss transportation's fundamental need. It impressed me that there should be the warmth of fellowship to such an extent as was manifested.

"We younger fellows came to the conference, more or less in a cloud as to what it was all about. Some of us thought that probably we should have to listen to the advocacy of some new kind of machinery. But instead we learned from those who have spent many years in the game that the fundamental need of all railroads is for men with the unselfish spirit of co-operation.

"One official of a northern road, in addressing the employed boys of the St. Louis 'Y' said: 'If I had a fairy

who would grant any wish of mine, I would not ask for money or influence—I would ask for youth with its present opportunities.' This struck me forcibly. The speaker was expecting the manhood of tomorrow to do even mightier things than those who are lifting the loads today. I thought if this executive would be willing, above all things else, to battle the road of life again because of its greater opportunities, certainly the chances of the youth today must be very great.

"Before coming to this conference I had a most warped opinion of railway executives. Newspaper cartoons generally picture them a fat bunch of grim visaged men, smoking 'two-dollar' cigars, and ready to crush beneath their thumbs 'the down-trodden denizens of the sweat shop.' But there in the convention, rubbing shoulders with them, I found a kindly group of fellows who took a great interest in what the boys were doing. One delegate sneaked off to the football game with me on Saturday. He was a general manager but he had as much fun as I did.

"And at the banquet in the Chamber of Commerce there was as much 'pep' evidenced by that gathering of railroad men as the old grads of a college show when they gather to awaken memories of the Alma Mater.

"Another thing that impressed more than passingly was the attention the boys gave to anyone who appeared before them simply and spoke with a tone of sincerity. A bunch of boys are the hardest audience to impress in the world. The remarks of Engineer Horace Parker at the banquet rang home to many of us.

"These are a few of the things that still linger in my memory. Inasmuch as they impressed me, others in the like manner were also impressed, and the wonderful thing about it all was the spirit of better understanding that developed when the boys met the men. For with acquaintance comes understanding and with understanding comes friendship. We left St. Louis knowing better the opportunities which are ours to create."

The Second Conference at Detroit

The officers of the first conference, who will hold over until their successors are elected at the second conference in Detroit next month, are C. W. McLeod, Kenora, Ont., Canadian Pacific, chairman; R. J. Cabler, Topeka, Kan., Santa Fe, vice-chairman; A. F. Adams, Sheridan, Wyo., Burlington, vice-chairman; A. A. Johnson, Cleburne, Texas, G. C. & S. F., vice-chairman; E. H. Brummett, Indianapolis, Ind., Big Four, secretary; Con Grause, St. Paul, Minn., Northern Pacific, secretary.

The second conference will be held in the Central Y. M. C. A. Building at Detroit, beginning on Friday, November 14, and culminating in a visit to Niagara Falls on Monday, November 17. In announcing this conference the following statement was given as its objective:

"Getting the right start at the bottom has a great deal to do in determining how far you will climb. Several of the most important factors that need to be thoughtfully considered by young men entering a railroad career are: (1) Character. It isn't pull that wins, but the man within. It's what you are that has the 'pull' in it. (2) Getting into the department where you can make the best contribution. Often a man makes a poor executive but a first-class mechanic. It is knowing what you can do best and then doing it. (3) It is the spirit of the Golden Rule in dealing with the other fellow that counts."

THE INTERSTATE COMMERCE COMMISSION has announced a further hearing at Chicago on November 6 before Commissioner Campbell and Examiner Keeler in the Pullman rate case and oral argument before the full commission at Washington on November 24 in the surcharge case.

Government Ownership of Public Utilities*

Would Bring Chaos and Destruction Instead of Progress to Our Nation

By W. N. Doak

Vice President, Brotherhood of Railroad Trainmen

GOVERNMENT ownership of railroads and other utilities is now before the people as a campaign issue. Apparently there is a difference of opinion among labor on the question of government ownership of railroads and other utilities. A large number of the employees are opposed to this plan. As one of these, I feel it my duty to present sound economic reasons, free from vituperation, why utilities should not be nationalized. As for those who advocate this plan, I ask that they advance their economic reasons in the same manner as to why nationalization should become effective.

This plan should be opposed for many reasons, but if for no other, because it is detrimental to the best interests of the employees.

The people of the states, counties, cities and subdivisions thereof have an interest in public utilities that can never be over-estimated. The people of the United States, of the several states, and of the various counties and municipalities should be fully advised of the ultimate effects of government ownership. Certain rights are reserved by the states in the Constitution, to be held in trust for the citizens thereof. Counties, cities and other subdivisions enjoy privileges vested in them through charters or other grants from the states, among which is the *right to tax and police public utilities*. Federal ownership will destroy these.

The proposed plan of government ownership applies not only to the railroads, but also to other utilities, including electric light and power stations and street railways; telephone and telegraph lines, and coal mines.

If this program goes through it will ultimately be extended to the farms, mills, factories and other industries, resulting in a super-government which will control all activities of the country. This is not a theory. It is a fact in Russia where this program is in full force, and where nationalization is fully effective. If a program of government ownership is adopted for one class of industries, will it not be rapidly extended to all others? Federalization of industries is a step towards the destruction of individual initiative and incentive, and a movement towards Communism.

This program can not be accomplished without placing a great burden upon the general government, the abridgement of 48 state constitutions, and the nullification of the rights of thousands of counties, cities and municipalities. In fact, every household in America will be reached, and each individual affected by the plan.

Public ownership of utilities is repugnant to the objects and aims of our government and will destroy the rights of our people. The interests of all employees will be jeopardized thereby. Therefore, opposition to state ownership is more than a mere whim; it is a solemn duty.

The proposed plan of nationalization of industries will tend to create a class government, foster a class domination, and encourage a class hatred. The governed have always had faith in our form of government, and this faith must be continued if our free institutions are to survive. Federalization of industries will shake that faith.

The various phases of the question will be dealt with separately;

and we will consider first, therefore, the general governmental burden of such a step.

The Burden of Debt

Our national wealth is estimated to be \$320,800,000,000. The national state and local indebtedness is about \$35,000,000,000. The general and local tax burden amounts to \$7,400,000,000 annually. The per capita wealth is approximately \$2,918. The per capita indebtedness is about \$301.56. The per capita tax assessment amounts to \$68.33 annually.

The value of American railroads in 1920, as fixed by the Interstate Commerce Commission for rate and wages purposes, was \$18,900,000,000. Since 1920, capital expenditures of the railroads have increased the value of these properties about \$2,100,000,000, which makes the present value of the railroads approximately \$21,000,000,000. According to the most accurate information available, gas facilities are worth \$4,700,000,000. Light and power plants are worth about \$6,500,000,000. Electric railways are valued at about \$5,600,000,000. Telegraph and telephone lines are valued at \$2,000,000,000. These make a total in round numbers of \$39,800,000,000. These figures do not include coal mines yet the program of the government ownership proponents includes coal mines—if these were included, it would add more than \$2,000,000,000 to these figures.

Taxes derived from public utilities mentioned below, which do not include coal mines, are as follows: Steam railways, \$336,750,000; gas, \$45,000,000; light and power, \$95,000,000; electric railways, \$64,800,000; telephone, \$61,800,000; telegraph, \$6,895,000. These make a total of \$610,245,000 collected annually in taxes from the above public utilities.

Government ownership of public utilities means, therefore, that our general indebtedness will be increased \$39,800,000,000, or, a per capita increase of indebtedness of \$367.54, bringing the total debt to \$74,800,000,000, and placing a total debt of \$769.10 upon each man, woman and child in the republic.

Large sums for improvements and betterments must be added each year, which will amount to billions annually.

There are hundreds of thousands of shareholders of the securities of public utilities whose rights must be protected. Questions of finance are of such import and present such obstacles, that it is doubtful if the proposed program of nationalization could ever be accomplished without a complete change in our form of government.

There are approximately the following number of employees of the public utilities mentioned: Steam railroads, 1,867,000; Gas, 34,900; Light and power, 150,000; Electric railways, 305,000; Telephone, 312,000; Telegraph, 68,600. These make a total of 2,737,500 public utility employees.

It is estimated that there are in round numbers three million employees in the local, state and national governmental service, including the Army and Navy employees. To this number add the 2,737,500 additional employees to be placed in government service by the federalization plan; the total would be 5,737,500, or about one in every 19 of the population would be in government service. If a ratio of dependency of five persons per family were taken, there would be

* Radio address broadcast from Washington, D. C., on October 17, over Nationally Inter-connected Stations.

approximately 28,687,500, or one person out of every four supported directly by the government.

The leading proponents of government ownership are advocating also the principle that Supreme Court decisions should be subject to be reviewed and reversed by Congress as a part of their program, the two being so interwoven as to be inseparable. This would mean that Congress could, by vote, over-ride a decision of the Supreme Court declaring a law unconstitutional. It would, therefore, be in effect, a power in Congress to amend the constitution.

It seems difficult to reconcile the advocacy of such a power in Congress with the oft-repeated charge by the same parties which they are even now constantly reiterating—that the big interests control Congress. If Congress has the ultimate power to determine what is constitutional and what is not constitutional, and if Congress itself, is, or shall ever be, controlled by the big interests, it is clearly manifest that to vest such a power in Congress as they now advocate, would be to put the Constitution, with all that it means to human rights and human liberty in the hands and at the mercy of the big interests.

Before such a change is made, the people should and will consider, with great care, what the change would mean to the security of individual rights and individual liberties, and to the very form and character of our system of free government.

The American Constitution in putting upon the political majority certain limitations and binding rules so as to protect the minority and the individual in the enjoyment of the right to life, liberty and property, and the pursuit of happiness and to preserve our dual system of government, state and federal, adopted a conception of government which was a creation of our forefathers and which differentiates our governmental system from the unrestrained tyrannies of the old world.

What this means to the individual citizen in respect to the protection of his rights and liberties, against the unrestrained, passionate and tyrannical power of the majority, has been often set before the American people in the course of debates now going on before them. It has been shown that under the Constitution, the citizen is protected. Let us continue to uphold that Constitution.

The safeguards which our ancestors established in their Constitution had been found, as a result of long ages of human tyranny and oppression, to be essential to human liberty. In their Constitution they had declared that these should be inviolate.

A New Crusade of Reaction

Now in this new crusade of reaction, which is falsely made in the name of progress, it is proposed to revert to the old order, to give Congress the power to take these safeguards away, to establish the unrestrained power of a temporary majority, to deprive the individual and minority of every constitutional protection of their homes and their liberties.

These are the individual rights which are to be struck down and sacrificed by the apostles of this modern philosophy of unrestrained legislative power. Congress is political, not judicial. It is proposed that the most sacred rights of our liberty loving people shall be subject to be taken away by a political body acting under the impulse of political considerations.

But the consequences of the proposal do not end with the withdrawal of all safeguards to the liberty of the individual. They involve the creation of a power to destroy our system of government.

When the states entered the Union, they reserved certain powers which they declared should never be invaded, and the people conferred upon Congress certain powers which they declared should never be exceeded.

They reserve to themselves the right to continue to be

sovereign states—sovereign except as to those powers of sovereignty which in the national Constitution they conferred upon the national government. They reserve to themselves the power of exclusive direct taxation of the real and other property within their respective jurisdictions. They reserve every policy and other governmental power for the welfare and protection of their citizens not expressly granted, in the Constitution to the general government.

They limited the power of the general government so that no new state could be formed or erected within the jurisdiction of any other state and so that no state could be formed by the junction of two or more states, or parts of states, without the consent of the legislatures of the states concerned.

They require that no preference be given by any regulation of commerce or revenue to the ports of one state over those of another, and that no tax or duty should be laid on property exported from a state, that no state should, without its consent, be deprived of equal suffrage in the Senate, and that the citizens of each state should be entitled to all privileges and immunities of citizens in the several states.

They set up a Supreme Court, clothed it with the power, and imposed upon it the duty, to hear the complaints of the states and of their individual citizens, and to define and protect these precious Constitutional rights and limitations.

It is now proposed by these new advocates to strip the court of this power, and to confer it finally and without appeal upon Congress with its political control.

A system of government, set with checks and balances between its departments, intended—and so far resulting—in avoidance of serious usurpations and in ordered liberty, is, according to the present proposal, to be exchanged for a system in which the legislative and political branch is to be made supreme, and the American contribution to the science of government, under which we have prospered so long and become the foremost and freest nation of the earth, is to be discarded.

To adopt a program which is thus advocated would result in a power in Congress to destroy the states; to deprive them of their most fundamental and most carefully reserved rights; to disregard and strike down the limitations contained in the Constitution upon the power of Congress, and even to abolish the Republic and establish a monarchy or a commune in its place, for it could then amend and change the Constitution without limit and without restraint. It would be possible, in such an event, for a Congress controlled by what are called the "big interests" to place their Caesar or Napoleon permanently in power, or for a Congress, controlled by the communists, Socialists and radicals to make a Lenin or a Trotsky, a ruler over us and over our destinies as a nation and as a people.

To say that this extreme of power is not likely to be exercised is no answer. No free people will ever permit even the power to exist.

Men who labor are as patriotic citizens of the Republic as those who have no need to labor. I believe they will preserve their liberties, and the system of free government they have learned to cherish, and for which they have shed their blood to maintain upon the earth.

The already mentioned facts show that the proponents of federalization of industries find it necessary to give to Congress the right to interpret the Constitution, or, in other words, the right to over-rule Constitutional guarantees and immunities. The first step that will follow this usurpation of power, is to take from the several states the right to tax public utilities, the right to police public utilities, and then to give to Congress jurisdiction over the employees of such utilities, thereby limiting their Constitutional rights. It will also confer upon Congress the right to take private property for public use at will, which carries with it the right to fix the price at which such property will be confiscated.

Having dealt with the burdens that will be placed upon

the general government, the abridgement of Constitutional guarantees to the states that will follow, and other subjects of light character, we now particularly call attention to the effect public ownership of utilities will have upon the employees.

Federalization Would Increase Taxes

The laboring men of this country are a constituent part of the citizenship of this Republic. In the final analysis they must prosper or suffer as their fellow citizens prosper or suffer. They cannot prosper by receiving class privileges or preferences, for these must be conferred upon them at the expense of other classes of their fellow citizens, and the result would be an unsound economic structure in which there could be no universal justice and no universal prosperity. This would be good for nobody—not good for labor any more than for any other class. Labor must get its prosperity out of a general prosperous condition. Again, there are special burdens that would be imposed upon labor, in common with other classes of their fellow citizens by government ownership and operation.

The public utilities and operations would then become untaxable, just as the post office property and operations are now untaxable. The taxes now being paid by the industries amount to about \$610,000,000 a year. If that source of public revenue is lost by government ownership, the amount must be made good by other taxpayers, among whom utility employees are no inconsiderable part. A vote, therefore, for government ownership and operation is a vote to increase the taxes of our people including the laboring man.

Under government ownership and operation employees would become government employees. Would they rank as other government employees, or would they expect to constitute an exceptional and favored class? If the latter, they would be seeking class favoritism against which they have always protested and condemned. They could hardly expect to be placed in and to remain in a favored class for whether or not they should be so placed would become a political question. This political question would be determined, not as a controversy between them and the railroad, but as a controversy between them and the great mass of their fellow citizens. It is not sure that the political power of this class of labor is sufficiently great to win in such a forum and between such contending parties.

If they are not placed in a special and exceptional class, will they be subject to classification and civil service rules to which other government employees are subject? Is labor willing to sacrifice its present freedom and advantages for such a system, or to take the risk of it?

Employees, after many years of effort, have become entitled to the privilege of collective bargaining, with all its incidental advantages and to which is due more largely than to any other cause, the marvelous progress which has been made in recent years in better and more advantageous working conditions and wages.

It would be practically impossible to use collective bargaining in dealing with the government as an employer. This is done by no other class of government employee; and, even if it could be, the power of collective bargaining, when the entire American people would be the party to be bargained with, would be much less useful and effective than when used with a private employer.

The power of strife would in effect be gone, because citizens would find it very difficult, if not impossible, to strike against their own government. If the power existed at all, a strike would be a very different thing, and much less effective, if effective at all, when directed against the power of a nation. This leaves aside the question whether anyone can strike against the safety and welfare of the state at any time, anywhere, or for any cause. We, who are trying to assert and protect the just rights and interests of labor, must pause to consider whether these rights and interests will

be promoted or injured by the loss of the power of collective bargaining and the power to strike for the purpose of protecting our interests.

The seniority rights of employees would in all probability be seriously jeopardized on government ownership by the substitution of political preferment in its place.

Whatever political power of influence we now have would be seriously impaired by our becoming employed by the government, for now on one side is our political power and on the other is the political power of our private employers. Whereas, in the event of government ownership, our influence if a question of political nature should arise, would, in case of a difference, encounter the political power of a nation. We must realize that if railroad and other public utility employees, become government employees, the basis of wage adjustment and the settlement of differences would be shifted from an economic to a political basis. When the matter of wage adjustments becomes a matter of the relative number of votes between those who seek wage advances and those who oppose, this class of worker would finally lose much and gain nothing.

There is nothing to cause public utility employees to favor government ownership and operation when a comparison is made between the present level of their wages and the present level of government employees in similar service. The government does not guarantee work and does not pay as high wages as a private industry.

Employees in train and yard service in Canada and elsewhere do not fare as well under government ownership of railways as the employees in the United States. These employees in Canada have been discriminated against in rates of pay and despite the fact that increases were granted to the United States railroad employees during this year, all efforts have failed to get increases for the men employed on the government lines in Canada, which has also precluded those classes of employees securing proper adjustment in wages on the privately owned lines. If this is to be a criterion of what is to come, each employee of the railroads and other public utilities should oppose government ownership.

An order was issued by the director general of railroads during federal control, which was modified somewhat later, prohibiting the railroad employees from participating actively in politics or running for or holding state, county or city offices while they were in the employ of the railroad. Again this indicates a trend toward limiting the rights of railroad employees which are now conferred upon and held in trust for them by their respective state Constitutions.

A federalization of public utilities will mean an annulment of state laws enacted for the protection of the employees. Among laws which effect the railroad employees alone will be found the following, which do not include the various county and municipal regulations enacted for their protection.

State car limit laws, state clearance laws, state employers liability laws, state caboose laws, state full crew laws, state hours of service laws, state laws governing the height of bridges, etc., state locomotive inspection laws, state qualification of employees laws, state relief association laws, state weekly payment of wages laws, state safety appliance laws of standards fixed by state laws or state public utilities commissions, state anti-spotter laws, state terminal and removal laws, state workmen's compensation laws and numerous others that could be mentioned.

Under nationalization of utilities all of the state legislative activities of railroad and other employees will cease and the employees must look to the federal government for any and all relief. The railway employees in this country receive higher real wages than the employees on any government system. Real wages are the buying power of the money which the worker receives each week. The worker is interested in what he can buy with his money. In a recent speech on this subject, Secretary Hoover presented some sound facts. He reduced earnings to plain bread and but-

ter. If we say that 5 per cent of butter and 95 per cent of flour form the basis of "bread and butter," then the weekly earnings in each country would buy at retail in those countries the following total weights of this useful compound:

	Conductors	Engineers	Firemen	Maintenance Men
	Lbs.	Lbs.	Lbs.	Lbs.
United States	840	865	652	302
Switzerland	257	308	220	166
Germany	238	276	217	153
Italy	189	240	178	143

The employees of public utilities in the United States are the most efficient of any in the world. For example, the American railroads move about 412,000,000,000 tons of freight one mile each year. This enormous tonnage is handled on the basis of 5 men for each one million ton-miles. The ratio in Germany is 23 men for each one million ton-miles, 24 in Italy and 31 in Switzerland. It will be readily seen that the railroad employees under private ownership, management and operation, are responsible to a great degree for the present standards of living in America. It would be a most serious mistake if the efficiency of these employees was impaired.

It is fitting and proper that a word should be said as to the efficiency, loyalty and patriotism of the men who manage the American railways. There is no higher class of efficient, faithful public servants than the operating officials of our railways and it is not believed possible to secure the services of such reputable, high class men under Government ownership at government salaries.

The various countries of the world have tried every conceivable form of government, from the tribal plan to communism. When the others failed to secure individual freedom and equal opportunity for all, the Republican form of government—that of the United States of America—was established, and has proved to mankind throughout the world, that a "government of the people, for the people, and by the people" will survive. Any government based on the centralization of power, or property, in the hands of its leaders—and divorced from the masses—must perish.

Our government gives and insures absolute freedom and equality. Shall we supplant that form of government by any other?—particularly one which would reverse the order of things and make the government supreme instead of the governed? If we choose federalization of utilities or industries, it means a reversal of our form of government. Therefore, I cannot believe the employees of public utilities, or any other class of our citizenship, will, in any numbers, support a plan which will bring, instead of progress to our nation, chaos and destruction.

Canadian Railway Board Voids Crow's Nest Rates

AN ORDER disallowing the freight rates provided for by the Crow's Nest Pass Agreement, excepting the east-bound rates on grain and flour, and restoring the rates as they existed on July 6 last, or before the Agreement became fully effective, was issued last week by the Canadian Board of Railway Commissioners. The Crow's Nest rates are ordered to be withdrawn from operation within 15 days of the publication of the decision, which would be at the end of this month. The decision was not unanimous. The majority judgment was concurred in by the chairman, H. A. McKeown, and Commissioners A. C. Boyce, Calvin Lawrence and W. B. Nantel. The minority finding was subscribed to by Assistant Chief Commissioner S. J. McLean and Commissioner Frank Oliver.

This majority finding of the board is welcomed by the railways, by shippers in eastern Canada, especially in the Maritime provinces, and by the province of British Columbia. If the decision is maintained for even a year it will mean a considerable increase in revenue to the railways which, if the agreement were allowed to remain in force, would be subjected to heavy decreases in earnings. J. B. M. Baxter, of St. John, N. B., commenting on the finding, said, "In the interests of the whole country it is essential that the judgment be maintained. It is the best vindication we have had in a decade of the rights of all the people as against the demands of a part of the people."

The prairie provinces—Manitoba, Saskatchewan and Alberta—are up in arms over the judgment of the Railway Board. The Manitoba government, supported by those of the other two provinces, has already dispatched to the federal cabinet at Ottawa, an appeal against the judgment asking for a suspension of the order pending a rehearing. At Ottawa the official view is that any appeal will have to be considered by the Supreme Court of Canada and not by the cabinet. The latter is empowered to hear appeals from Dominion Railway Board decisions on questions of fact only. Appeals based on questions of law and jurisdiction, such as the present, must be decided by the Supreme Court. It is expected that the latter will deal with the matter and ultimately at the coming session the Canadian Parliament will be compelled to find some way out of the present freight rate tangle.

Chief Commissioner H. A. McKeown of the Railway Board summarizes the majority finding of the Board in the following words:

"It therefore follows that the reduction provided for in the Crow's Nest Pass Agreement must disappear as a factor in Canadian freight tariffs. Under the conditions now prevailing, it is impossible to make a fair and reasonable adjustment of rates and tolls as between one locality and another and as between the shipper and the railroads on the basis of the continuance of such reductions and the provisions of the Crow's Nest Pass Agreement. This decision will remove as between city and city all discrimination based upon the Crow's Nest Pass Agreement, and will eliminate whatever discrimination has arisen from an extension of lines and railways to which the benefit of such rates has not been applied by those responsible for the existing tariffs."

Commissioner A. C. Boyce, who prepared the majority finding, said, in part:

"I think that the basic remedy to be immediately applied to the present conditions caused by the filing of the tariffs in question is to cancel them and restore the rates under tariffs in force on July 6, 1924, permitted by the board. If any inequalities, discriminations that are unjust, or preferences that are undue, remain after restoration of such tariffs, application may be made to the board for their adjustment."

"The disruption of the freight-rate structure resulting from the tariffs in question has created a condition of chaos and rate disparities without parallel in the history of freight-rate making in Canada," Commissioner Boyce continues, in the course of his judgment. He reviews the history of the agreement and gives instances of the discriminations which have resulted from its revival last July.

"The tariffs so made, effective July 7, 1924, by the railway companies named were not in accordance with the board's judgment and orders previously referred to as to what the rates should be, nor were they fair and reasonable under existing conditions," states Commissioner Boyce. "Their publication by the C. P. R.—in so far as they were by that company put into effect under that company's agreement of 1897—compelled all other railways in competitive territory to conform to them to meet the unjust and unfair competition forced upon them, and which they were obliged to meet by reducing their rates below the standard fixed by the board as just and reasonable, and thereby compelled reductions of

freight rates of a wide and far-reaching character below that standard, not only by the C. P. R. (which at that time seemed to recognize its contractual obligations to adhere to the contract tariff) but by the other railway companies who were in no way bound by them."

Dissenting Opinions

Commissioner McLean, in dissenting from the finding of the majority, deals largely with the legal question involving the jurisdiction of the Board of Railway Commissioners. "The Crow's Nest Pass arrangement was an agreement," he states, "and if the board had power under the discrimination sections to disregard the limiting powers of such an agreement, what was the necessity for such legislation? It seems to me that the enactment of this legislation is, in substance, a statement by Parliament that in regard to the subject dealt with in the subsection the board had not—in the absence of this specific enactment—regulative powers." The Assistant Chief Commissioner also states: "I am further constrained, although with great deference to the opinion of the Chief Commissioner, to conclude that the provisions of the law involved do not warrant the conclusions arrived at by the majority."

In his dissenting judgment, Commissioner Oliver states: "This board was created and empowered for the more efficient enforcement of the acts of Parliament regarding railways, and therefore cannot set aside any part of the provisions of any such act, but, on the contrary, is bound to loyally enforce those provisions. While it would be quite in order for the government to negotiate a new arrangement with the Canadian Pacific Railway Company in the place of the Crow's Nest Pass Act, I am of the opinion that such an agreement should maintain the principle of low-fixed rates on basic products established by that act."

Freight Car Loading Highest This Year

WASHINGTON, D. C.

FREIGHT CAR LOADING during the week ended October 11 amounted to 1,088,462 cars, which was the highest for any week this year but was still about 9,000 cars below the peak of last year, which was 1,097,493 cars, reached during the last week of September. As compared with the corresponding week of last year there was an increase of 2,524 cars and as compared with the preceding week of this year there was an increase of over 11,000 cars. As compared with the highest previous week of this year there was an increase of about 1,000 cars but as grain loading has now apparently reached its peak for the year there seems little prospect of breaking last year's record, although the possibility of doing so was anticipated for a time when heavy coal loading was combined with record loading of grain and grain products. Light loading of ore and a decrease as compared with last year in the loading of foreign products have kept this year's figures from establishing a new record. Loading in the week ended October 11, which was 1,077,006, was held down somewhat by the observance of Jewish holidays in some sections of the country, but new records were established in the loading of grain and grain products, 71,134 cars, and of l.c.l., merchandise, 259,106 cars. Another new record for l.c.l., merchandise was established during the week of October 11—259,617 cars, and livestock loading, 41,632 cars, was the highest for any week of this year.

As compared with the corresponding week of last year increases were shown in the loading of grain and grain products, coal, merchandise and miscellaneous, but the loading of forest products was 5,122 cars less than that for last year and

the loading of ore showed a decrease of 14,070 cars. Decreases as compared with last year were also shown in the Eastern, Allegheny and Northwestern districts. The summary as compiled by the Car Service Division of the American Railway Association follows:

REVENUE FREIGHT CAR LOADING

Week Ended October 11, 1924

Districts	1924	1923	1922
Eastern	246,163	251,441	235,368
Allegheny	210,759	219,658	201,731
Pocahontas	53,719	45,056	29,502
Southern	152,354	148,573	132,824
Northwestern	164,261	177,430	149,503
Central Western	181,280	170,939	158,488
Southwestern	79,926	72,841	62,071
Total Western districts	425,467	421,210	370,062
Commodities			
Grain and grain products	62,582	50,292	52,058
Livestock	41,632	43,246	39,041
Coal	198,154	195,066	194,520
Coke	9,663	11,928	10,155
Forest products	70,088	75,210	59,142
Ore	46,509	60,579	46,267
Mdse., l.c.l.	259,617	251,646	224,795
Miscellaneous	400,217	397,973	343,509
Total	1,088,462	1,085,938	969,487
October 4	1,077,006	1,079,776	935,952
September 27	1,087,447	1,097,493	977,791
September 20	1,076,553	1,060,811	961,138
September 13	1,061,424	1,060,563	937,221
Cumulative total, January 1 to date	37,868,482	39,468,953	33,230,537

Week Ended Saturday, October 4, 1924

Districts	1924	1923	1922
Eastern	243,181	253,699	233,044
Allegheny	202,242	218,350	196,631
Pocahontas	49,315	44,920	27,886
Southern	147,295	143,758	128,893
Northwestern	171,110	179,977	150,883
Central Western	182,540	166,789	155,693
Southwestern	81,323	72,283	60,922
Commodities			
Grain and grain products	71,134	50,032	50,074
Livestock	39,160	40,926	39,090
Coal	186,516	191,717	185,774
Coke	9,799	12,497	9,731
Forest Products	66,616	73,187	57,391
Ore	48,458	67,425	47,445
Mdse., l. c. l.	259,106	254,362	227,903
Miscellaneous	396,217	389,630	336,544
Total	1,077,006	1,079,776	935,952
September 27	1,087,447	1,097,493	977,791
September 20	1,076,553	1,060,811	961,138
September 13	1,061,424	1,060,563	937,221
September 6	920,979	928,916	823,247
Cumulative total, January 1 to date	36,780,020	38,383,015	32,243,050

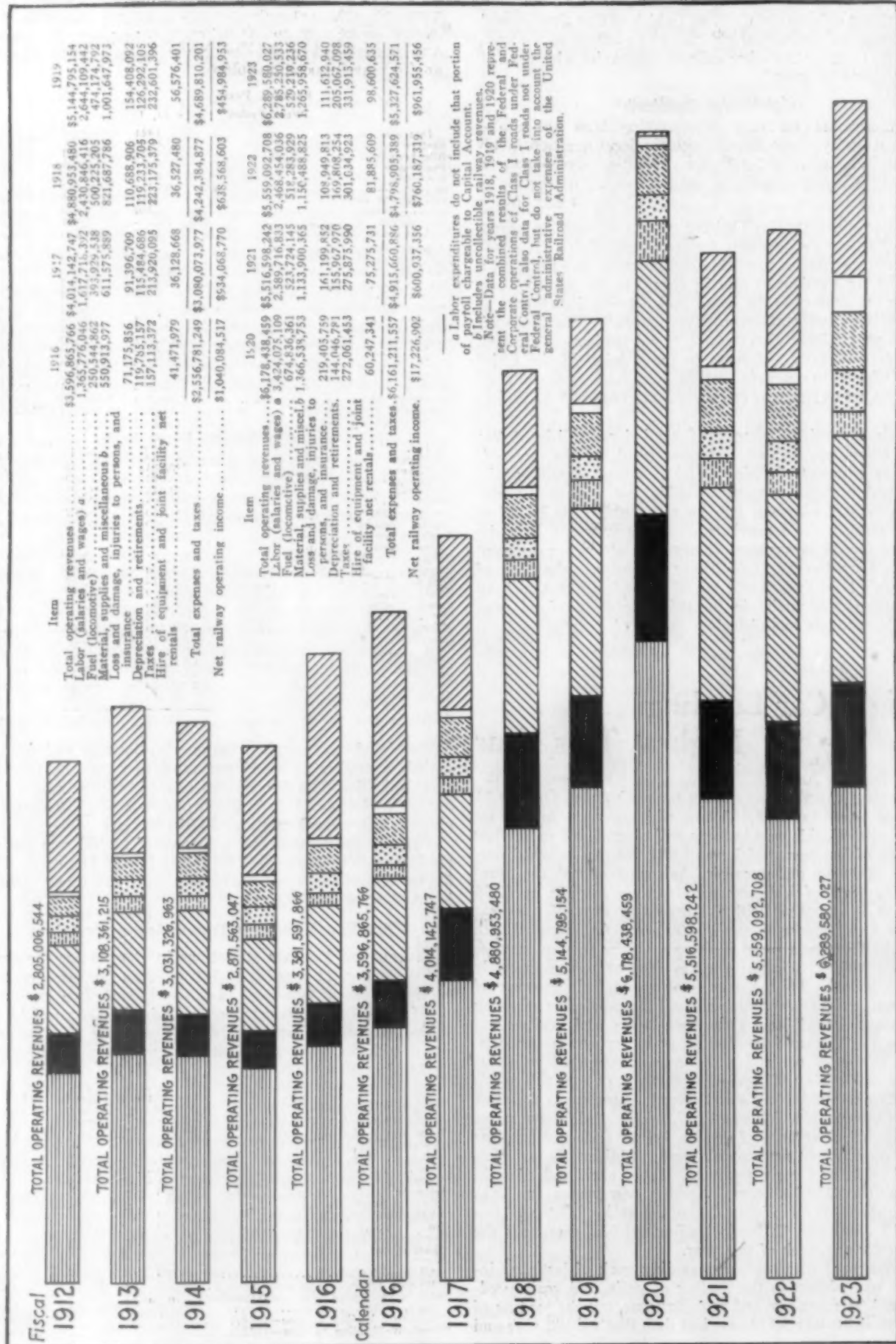
The freight car surplus continues to decrease and for the period September 23 to 30 amounted to a total of 116,689 cars, including 58,375 coal cars and 36,768 box cars. For the period October 1 to 7 the surplus was 103,730 cars, including 52,643 coal cars and 30,018 box cars.

The Canadian roads had a surplus of 13,100 cars during the last week of September, including 10,450 box cars. For the period October 1 to 7 the surplus was 11,001 cars including 8,250 box cars.

Canadian Loadings Down Seven Per Cent

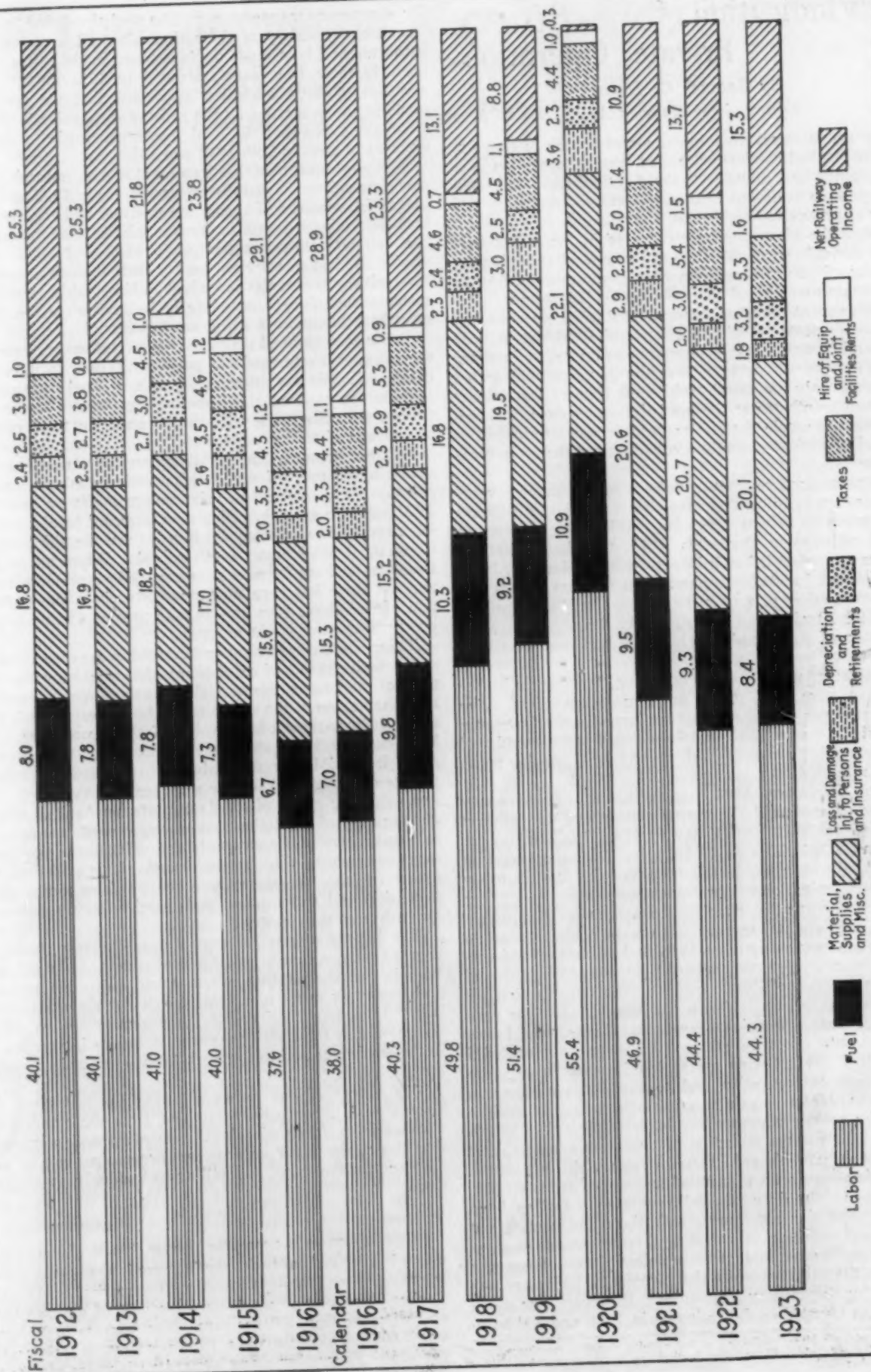
Revenue car loadings at stations in Canada for the week ended October 11 totalled 67,740 cars, an increase over the previous week of 826 cars. Live stock, coal, lumber, pulpwood, other forest products, ore and miscellaneous freight all showed increases, but grain was down 1,068 cars. Compared with the same week last year car loading was lighter by 5,087 cars.

Total for Canada Commodity	For the week ended 1924		
	Sept. 27 Cars	Oct. 4 Cars	Oct. 11 Cars
Grain and grain products	15,812	16,992	15,924
Live stock	2,596	2,556	2,864
Coal	6,051	6,896	7,141
Coke	219	247	319
Lumber	3,561	3,651	3,678
Pulpwood	1,380	1,395	1,576
Pulp and paper	1,856	1,751	1,718
Other forest products	2,033	2,164	2,359
Ore	1,694	1,003	1,691
Merchandise, l.c.l.	16,074	16,080	15,797
Miscellaneous	14,687	14,179	14,669
Total cars loaded	65,963	66,914	67,740
Total cars received from connections	31,793	32,165	31,272
Total cars loaded for corresponding week, 1923	70,550	71,390	72,827
Cumulating loading to date—1924			2,220,204
Cumulative loading to date—1923			2,138,609



Data Prepared by Bureau of Railway Economics.

The Distribution of Railway Operating Revenues—Class I Roads, 1912 to 1923



Data Prepared by Bureau of Railway Economics
The Distribution of Railway Operating Revenues Expressed in Cents per Dollar of Gross Revenues

The Vindication of Private Operation*

By Samuel O. Dunn
Editor of the *Railway Age*

THE FACTS about what has occurred on the railways of the United States since government operation was adopted on January 1, 1918 afford the most conclusive possible argument against government operation and in favor of private ownership and management.

Never in the history of any railways in the world were there produced in so short a time so many results proving the superiority of private operation over government operation. The government operated the railways for 26 months. Because government operation was adopted as a war measure it has been repeatedly said that its results did not indicate what would be the results of government operation in peace time. The fact is, however, that the government operated the railways only ten months while the country was at war and sixteen months after the armistice was signed. Therefore, there was ample time, after the war was terminated, to get a good idea of what would occur under permanent government operation.

Let us then compare what actually occurred under government operation with what has occurred since the railways were returned to private operation. When the government took the railways in December, 1917, they had 1,700,000 employees and when it handed them back on March 1, 1920, they had about 2,000,000 employees, an increase of 300,000. The railways under private operation have, in 1924, handled a much larger traffic than they did in 1919 and yet the average number of men employed by them this year has been only 1,770,000.

The railways, under private operation, are paying higher wages than were paid under government operation. The average wage per day of railway employees in the first seven months of 1919 was \$3.80 and in the first seven months of 1924 it was \$4.39 per day. This was 53 cents per day more, or at the rate of \$194 a year more.

Between December, 1917, and February, 1920, under government operation, the operating expenses of the railways increased from \$8,107,000 a day to \$14,311,000 a day, or more than \$6,200,000 a day. In July, 1924, the operating expenses had been reduced to \$2,400,000 a day less than they were at the termination of government operation.

Owing to the great increase in expenses under government operation, the director-general had to make a big increase in freight and passenger rates in 1918 and in spite of this increase in rates, there was incurred in the 26 months of government operation a deficit of \$1,200,000,000 which the tax payers had to pay. Within two months after the railways were returned to private operation, the Railroad Labor Board put into effect an advance in wages that exceeded \$2,000,000 a day. Owing to the big increase in expenses under government operation and to this large advance in wages it was necessary again to advance rates in 1920. Since then, under private management, in spite of higher wages, there has been a large reduction of operating expenses, and this has made possible reductions in rates which amounted, on the basis of the business handled in 1923, to \$683,000,000.

It has been claimed that the railways were in a dilapidated condition when the government took them and that it put them in good condition by investing a large amount of capital in them. The fact is, that every dollar of capital that was invested in the railways while the government had them was furnished by the railway companies. However, how much actually was invested in the railroads in 1918 and 1919 un-

der government management? The statistics of the Interstate Commerce Commission show that after all accounting adjustments had been made the investment made by the government in these two years amounted to \$726,000,000. The statistics of the commission also show that the investment made in the properties by the railway companies in the year 1923 alone exceeded the total investment made by the government in them in both 1918 and 1919.

The government, in 1918 and 1919, put in service 4,865 new locomotives. The railway companies, in 1922 and 1923, placed in service 5,263 new locomotives. The government, in 1918 and 1919, put in service only 141,268 new freight cars. The railway companies, in 1922 and 1923, put in service 288,761 new freight cars or more than twice as many. The railway companies have had to buy within recent years so many new freight cars largely because when the government had the railways it did not buy enough.

It has been claimed that the Transportation Act guarantees the railways a return of 5¾ per cent. This is a mere fabrication. It does not guarantee them any fixed return and in the four years since the war-time "guarantees" were withdrawn, the railways actually have earned on their valuation an average of only 4 per cent.

In consequence of the great improvements that have been made in the properties and in operating methods since the railways were returned to private operation they handled in 1923, and are again handling now, a record breaking freight business while rendering the best service the shipping public of the United States ever received. Shipments of grain, for example, have for weeks far exceeded all previous records, and yet there has been no "car shortage" in the grain belt and farmers have been able to take prompt advantage of the greatly increased prices of grain.

Those who favor government ownership are also advocating a destructive policy of regulation which would involve reductions of rates regardless of high operating expenses and taxes and a reduction of the valuation of the railways which would confiscate one-third of the value of their properties. They know that the Transportation Act was passed by Congress to make it possible for the railways to be returned safely to private operation and private management to succeed. They know that the repeal of the Transportation Act and adoption of the policy of regulation they advocate would cause universal bankruptcy of the railroads and drive them into government ownership. They are advocating this policy of regulation for the obvious purpose of breaking down private ownership and management and thereby forcing government ownership on the country.

The history of our railways during the last seven years proves that government management means inefficient operation, increased operating expenses and either higher freight and passenger rates, or a huge deficit for the tax payers to pay. It proves that private management means efficient operation and that efficient operation results in benefits both to the employees and to those who travel and ship goods and pay the rates.

The history of our railways during the last seven years affords such a conclusive argument from the standpoint of all classes in favor of private ownership and management that those who favor government ownership must be either ignorant of the facts, or willing deliberately to disregard them.

IN AN EFFORT to compare the increase in cost of state governments in 1900 and 1923 with the increase in the cost of railroad operation, the Illinois Central sent inquiries to 13 states. Replies show that in nine states the cost of government increased more than 500 per cent. The increase in Wisconsin was 1,605 per cent, in Iowa 1,156 per cent, in Arkansas 462 per cent. Four other states showed an increase of less than 500 per cent.

* Abstract of an address delivered at the regular monthly meeting of the Western Railway Club held at the Auditorium hotel, Chicago, Monday evening, October 20.

New Lines in Oregon Recommended to I. C. C.

Examiner Suggests That Southern Pacific Lines Be Transferred to Union Pacific Operation

WASHINGTON, D. C.

A PROPOSAL that the Southern Pacific lines in Oregon, amounting to 1,310 miles of line with a property investment of \$99,548,706, be detached from the Southern Pacific system and that some or all of them be assigned in the railroad consolidation plan to a proposed east and west cross-state line with a view to operation by the Union Pacific system, is one of the chief features of a proposed report by Examiner C. I. Kephart to the Interstate Commerce Commission recommending the findings that he believes the commission should make on the complaint filed by the Public Service Commission of Oregon, which asked the commission to order the construction of additional lines in the state. The proposed report takes the position that the proposed extension would not be justified under present ownership of the existing lines in western Oregon, owing to the probable insufficiency of traffic to sustain it, but that if the lines were operated by the Union Pacific, as they were under the Harriman regime and also under federal control, the construction of the cross-state line would be justified. In eighty typewritten pages the report includes a very detailed consideration of the needs of the state for additional railroad facilities. The examiner recommends that the commission should find as follows:

Findings Recommended

(1) That the public convenience and necessity require the construction of a railroad extension between Bend, Ore., and Lakeview, Ore., with direct connection with the Natron cut-off, as part of a railroad system for through and local service between south-central Oregon and the Willamette valley and between California and the Inland Empire and southern Idaho;

(2) That the public convenience and necessity require the construction of a cross-state railroad extension from Malheur Junction-Harriman branch to a connection with the Natron cut-off, either directly or through Princeville or Bend, as later may be determined, as part of a railroad system for through and local service between western Oregon and California on the west and eastern Oregon, Idaho and transcontinental territory on the east;

(3) That the necessities of the national defense on the Pacific coast require the construction of the railroad extensions described in findings (1) and (2) above;

(4) That, in order to strengthen our national transportation system and to insure adequate transportation for future development of the national and privately-owned forests in Oregon, more direct rail lines than now exist between western Oregon and intermountain and transcontinental territories are needful and should be required, thereby avoiding the unnecessary circuitry and physical difficulties incident to traffic movement via California junctions;

(5) That defendant Oregon-Washington and its allied lines be required to submit to the commission within three months detailed plans of the location, connections, etc., of the projected Bend-Odell Junction-Lakeview extension embraced in finding (1) above, and that, upon such approval, an order issue against the Union Pacific system for the construction of said railroad, reserving joint and/or common use to the Oregon Trunk from Bend to Odell Junction;

(6) That the expenses necessary to perform the construction embraced in findings (1) and (5) above will not impair the ability of the constituent railroads of the Union Pacific system to perform their duties to the public;

(7) That the projected cross-state railroad extension embraced in finding (2) above, under present control of existing lines in western Oregon, would not be self-sustaining from the local and through traffic it might receive and its construction is not justified without the assurance of a large volume of through traffic from and to western Oregon; and

(8) That complainant should be afforded an opportunity of further hearing on the question of assigning, under railroad consolidation plans, some or all of the Oregon & California, the Central Pacific, and the Southern Pacific lines in Oregon to the projected cross-state railroad embraced in finding (2) above, to provide such coast feeders as may make feasible and justify the construction of said cross-state extension; and that such further hearing, if held, should also include a consideration of the most feasible location across central Oregon of said projected cross-state line, and such other pertinent matters as will enable the commission fully to consider and act upon these questions.

After an analysis of the evidence the examiner says in part:

Conclusions of the Examiner

The record amply supports the conclusion that central and eastern Oregon are greatly in need of additional transportation facilities. This is not denied by defendants. But the feasibility of construction primarily depends upon whether or not such extensions would become self-sustaining within a reasonable time. In determining whether or not the construction of extensions should be required, the commission may exercise an informed judgment upon all pertinent facts, past and present, in order to forecast results of their operation as best it can. It is not restricted by past or present statistics of operations and earnings. These are serviceable only as they may throw light on the future.

The proposed extension from Bend via Odell Junction to Lakeview would traverse traffic-producing territory, either forested or agricultural or both, for practically the entire distance. It would terminate at Lakeview, which is situated in a rich agricultural district. Vast timber resources would be accessible by means of short logging roads constructed by operators in the usual manner. This line affords every reasonable assurance of promptly becoming self-sustaining and should be ordered built. The Union Pacific system should be required to prepare plans for the commission's approval, locating the line where it deems most advantageous, but in such manner that connection can readily be made with the Natron cut-off for the routing of traffic southward through Klamath Falls or northward through Eugene or in the reverse directions. The Oregon Trunk should be allowed joint or common use from Bend to Odell Junction, as part of a through route between California and territory served by it and its allied lines. This will embrace the construction of between 140 and 150 miles of road, at a cost of upwards of \$8,000,000. Funds apparently are now obtainable in the money markets at very favorable rates of interest.

With respect to the proposed cross-state extension, the crux of the matter is the availability of tonnage at the western end of the line. No one questions the existence of traffic equaling the volume outlined by various witnesses in support of the complaint, although estimates of the various classes comprising the total may lack unanimity. Defendants concede that, if the tonnage existing in the forested areas on the western slope of the Cascades and in the Willamette valley and south were freely available for a cross-state line, its construction would be feasible as originally planned over 15 years ago. While the possibilities of the semi-arid interior are uncertain at this time, the history of the west is replete with instances of seemingly worthless land later being made productive of something of value.

But it is apparent on the record that the ownership and control by the Southern Pacific of the lines in western Oregon precludes such a cross-state line, under the interstate commerce act, from the assurance of adequate traffic at the western end without the heavy expenditure of funds for feeder extensions. And many of these would be needless paralleling of existing branches of the Southern Pacific and to that extent an economic waste. Without a large volume of western Oregon traffic, such a cross-state line would

experience a precarious existence. With it, the construction is amply justified.

It is common knowledge that Oregon, in a very great degree, has lain dormant economically for many years, due principally to inadequate transportation facilities. Or, more accurately, its present development has been attained under that handicap, while neighboring states with no greater resources proportionate to area have enjoyed continuous progress under more favorable circumstances. This is demonstrated by the fact that the population of Oregon increased only 89 per cent from 1900 to 1920, whereas the surrounding states of Washington, Idaho, and California increased 162, 167 and 131 per cent, respectively, during the same period. Even Nevada, less favored by nature than Oregon, experienced an 83 per cent increase.

The preponderance of movement of traffic from western Oregon at present is to California and points served by the Southern Pacific. This is due to the retarded development of Oregon industries of which the products normally would move to eastern markets, such as lumber and manufactured products thereof, as well as horticultural and dairy products, as against similar commodities produced on the Southern Pacific lines in California and accorded more direct transportation. The more or less chronic shortage of cars in western Oregon also has had its ill effect. Proof of the retarded condition of the Oregon lumber industry is found in the fact that, with 494,000,000 feet of standing timber against 335,000,000,000 feet in Washington, the former had an output of only 3,500,000,000 feet in 1920 against 5,500,000,000 feet produced in Washington. If this section had enjoyed direct and more competitive rail communication with the middle west and east from early times, as in California and Washington, it is inevitable that the great preponderance of traffic would now be transcontinental, as in those states.

During 1923, the line-haul traffic originated on Southern Pacific lines in Oregon, exclusive of the Klamath Falls branch, amounted to 168,443 carloads. Of this traffic, 146,403 carloads, or 87 per cent, were destined to points on the Southern Pacific or on connecting lines purely local to that system. Intrastate traffic between Southern Pacific points amounted to 117,798 carloads. The movement to destinations in intermountain, middle western, and eastern territories equaled only 15,989 carloads, or 9.9 per cent of traffic originated on the Southern Pacific in Western Oregon. The quantity via Portland and the Oregon-Washington amounted to 2,159 carloads, which under present ownership of lines is all that could have been expected at Odell Junction by an Oregon-Washington cross-state line. As the originating line in western Oregon the Southern Pacific exercises its right of the long haul under the act to deliver the great proportion of its eastbound traffic with the Union Pacific to that road at Ogden. On the eastern slopes of the Cascades, however, the Oregon-Washington would be the originating carrier, except that between Odell Junction and Klamath Falls it might be competitive with the Southern Pacific.

The natural flow of traffic from lower western Oregon to eastern markets is down hill from the slopes of the Siskiyou and Cascade mountains northward to connection with such a cross-state line as here proposed. From the more northerly points in the Willamette valley it is via Portland and the Columbia river routes. The former would then follow practically a uniform grade eastward from the Cascades to the continental divide in Wyoming. But, owing to the unnatural control by the Southern Pacific of existing lines in western Oregon, western Oregon traffic now is lifted over the Siskiyou mountains, carried down into the Sacramento and San Joaquin valleys, and again lifted over the Sierra Nevada or Tehachapi mountains before it is well on its way eastward. West-bound traffic and empty cars move in the reverse direction. Thus a continuance of the present control of the western Oregon lines would have the effect of preventing the people of the state from being accorded the relief needed and here sought.

On this record there is apparently but one adequate solution to this problem, namely, a separation of lines in western Oregon from the Southern Pacific system in such a way as to make available to a cross-state line a large volume of eastbound and westbound traffic. Ample coast traffic would remain to support the existing lines between Oregon and California. It is doubtful whether anything less would justify the construction of this cross-state extension and at the same time afford the industries and people of Oregon the direct and expeditious service to which they are entitled.

Without such rail communication, central and eastern Oregon are practically severed from western Oregon, with the chief centers and the state capital, and state unity, social, political or economic, is apparently difficult to maintain. The people in the two parts of the state have difficulty in understanding each other's problems. This is a matter of more than local importance. Moreover, shorter distances between the two sections would result in a reduction of transportation charges now borne for circuitous service and transfer between different carriers. The national government also has the previously stated interest of securing the proper development of the national forests and of having adequate railways on the Pacific coast for the national defense. In the event of obstruction of the present rail lines along the Columbia river and over the Siskiyou mountains in a national emergency, relief to western

Oregon under present circumstances would be slow and difficult and Coos bay and other coast points might afford ready entry for hostile forces. For all of these purposes a cross-state extension is well adapted.

Advantages of Union Pacific Operation

The following utterance by one of the officials of the Union Pacific system in 1922, when that organization was seeking control of the Central Pacific in opposition to the Southern Pacific, is quoted by complainant as concisely stating its position.

If Oregon permits the diversion of Oregon business in this way, there is nothing in sight or in prospect with which to support an Oregon line. The problem of Oregon railroad construction and operation would be much simplified if Oregon would insist that its traffic, of Oregon origin and Oregon production, move, when destined to the east, through Oregon, instead of being diverted out of Oregon. Such an Oregon program would not only sustain an Oregon road and develop Oregon areas, but it would create and place Oregon property on Oregon assessment rolls. It would keep in Oregon a part of the tolls paid by Oregon for Oregon transportation, in expenditures by an Oregon railroad for taxes, timber purchases and other material and supplies, and would mean the employment in Oregon of Oregon labor. The states to the north and south, having no interest in the traffic question, could not be prejudiced, and could and would only welcome the resulting Oregon development.

Thus, it would seem that in the minds of all or practically all of the parties, excepting perhaps the Southern Pacific, there is a uniformity of opinion in respect of both the existence of a transportation problem in Oregon and the appropriate solution. Public sentiment throughout the Willamette valley is said to strongly favor the segregation of carriers here suggested. Under the Harriman regime, the Oregon & California lines and Southern Pacific branches in western Oregon were managed as a part of the Union Pacific system and not the Southern Pacific. A similar policy was pursued by the United States Railroad Administration for operating reasons. The advantages behind this procedure, arising out of the difficulty of moving traffic over the Siskiyou watershed, support its adoption as a permanent policy.

The ownership of all the lines operated by the Southern Pacific Company in western Oregon as of December 31, 1923, was as follows, exclusive of additional main tracks, industrial and yard tracks and sidings.

	Miles
Owned by Oregon & California R.R. Co.....	683.04
Owned by Central Pacific Ry. Co.....	94.31
Owned by Southern Pacific Co. direct.....	511.40
	1,288.75
Operated by Southern Pacific Company of other roads under contracts, trackage rights, etc.....	21.49
Total.....	1,310.24

They are shown on the books as representing an investment of \$99,548,706. The Southern Pacific Company operates the Oregon & California and the Central Pacific lines under lease and also owns all except directors' qualifying shares of the two corporations. Upon the completion of the Natron cut-off, the Central Pacific mileage will be increased approximately 110 miles, all in the line from Weed, Calif., to Natron, Ore. The trackage owned by the Oregon & California is principally north-and-south main lines and that of the Southern Pacific Company is branches. All of the Oregon & California lines, the Southern Pacific branches and the Central Pacific from Klamath Falls north should be detached from the Southern Pacific system. Klamath Falls, 19 miles north of the California state line, should have competitive service.

There is another reason, of both local and national importance, why most of the lines in western Oregon should be transferred to Union Pacific operation. The tentative conclusions in *Consolidation of Railroads*, 66 I. C. C. 455, contemplate conjoining this road and the Chicago & North Western. The western Oregon lines now are merely appendages of the Southern Pacific, a distinctly southern and not a northern system, which dominates a vast potentially rich territory in California and adjacent states that may in time demand its full capacity. This is indicated by the fact that the density of traffic over the Southern Pacific via the Ogden and El Paso gateways already approximates 1,600,000 ton-miles per mile of road. These large tonnages include Oregon traffic that moves through the gateways upon which western Oregon is dependent for car service. These facts, together with the joint use of Southern Pacific and Western Pacific tracks between Weso and Alazon, Nev., bridging by the Western Pacific for the Southern Pacific from Chico, Calif., to Winnemucca, Nev., and the more recent approval of acquisition by the Southern Pacific of the El Paso & Southwestern to provide additional transcontinental main-line capacity, are advanced as demonstrating the need of additional and more direct gateways for western Oregon traffic. The Southern Pacific still has considerable undeveloped forest and agricultural area to draw from along its present lines in northern California and its projected Modoc Northern branch from Susanville to Klamath Falls. The traffic densities of the Union Pacific system in Oregon and Idaho and the Spokane, Portland & Seattle equal only around 925,000 and 750,000 ton-miles per mile of road,

respectively. Thus, as a national transportation policy, it seems desirable for the better distribution of traffic that intermountain and transcontinental freight from and to Oregon should be caused to move directly east or west or over Columbia river roads rather than over more southern routes.

With the western Oregon lines as a substantial network of coast feeder branches of the Union Pacific, originating and delivering large volumes of both local and transcontinental freight and capable of far greater expansion, not only would the construction of the proposed cross-state line be justified, but the Chicago & North Western later would be warranted in extending its originally projected transcontinental line from Lander, Wyo., to Pocatello, Idaho, approximately 185 miles. This would close the last gap of an advantageously located route of this unified system between Chicago and the lower north Pacific coast via Sioux City, Iowa. It doubtless would be the last through line consummated for many years to come, and would strengthen our transcontinental facilities for both commercial and defensive purposes. It would also enable existing unprofitable branches of both roads to become self-sustaining under the development of what is now virgin territory from a transcontinental standpoint. Moreover, it would give great impetus to local development tributary to this through line in the states of Nebraska, Wyoming, Idaho and Oregon. The largest potential markets for Oregon lumber are in the middle west, in consequence of the depletion of southern pine. The far reaching and beneficial effects that would follow this solution of the pending problem are thus apparent. And, it may be noted, this can be achieved without serious detriment to any existing road, in view of the fact, as stated by the Southern Pacific, that its Oregon lines have yielded net returns under 2 per cent annually since 1913, and it has been necessary for the Pacific system as a whole to nurse and finance them and bear their losses.

If greater competition among the western Oregon lines than now exists be preferred, logically it should come from the Spokane, Portland & Seattle by the addition of some of these lines to that road. Under the tentative consolidation plans, the ramifications of the latter and its allied connections will cover the vast middle western territory now served by the Union Pacific and the Chicago & North Western more fully than will the Southern Pacific and its connections. Strictly Southern Pacific points between Oregon and New Orleans, La., could be reached as readily as at present at joint rates.

An immense amount of labor already has been expended on this subject by all parties. It apparently is a question that must be settled affirmatively some time, and, in order to avoid duplication of effort, the parties should be afforded an opportunity for a further hearing to examine this particular phase of the matter in greater detail. If an amended or supplemental complaint be necessary, in order that the pleadings may be sufficient, that should be filed by complainant, and the Oregon Electric, the Spokane, Portland & Seattle, and all roads of the Union Pacific system not now named in the complaint, should be made parties defendant. Otherwise, an investigation of this feature of the matter should be instituted by this commission on its own motion.

This procedure may be conducted in the light of the national railroad consolidation plans now being developed by the commission. The Central Pacific is the link between the Southern Pacific lines in central California and those in western Oregon. The latter road was permitted to acquire control of the Central Pacific in *Control of Central Pacific by Southern Pacific*, 76 I. C. C. 508, "subject to termination by our order if and when found by us to interfere with the consummation of the final plan of consolidation when promulgated under section 5 of the interstate commerce act as amended." The principal question in that case was the interrelationship of carriers in California and the Oregon situation was not discussed. Hence, the commission possesses jurisdiction to consider the solution of this problem recommended herein.

If any such broadened pleadings be filed, they should also allow further detailed consideration of the feasibility of requiring the construction of the suggested alternative cross-state extension northwesterly through the Malheur and/or Ochoco forest reserves to Princeville or Bend.

THE ATCHISON, TOPEKA & SANTA FE on October 20 petitioned the Interstate Commerce Commission to reopen the hearing in which the commission denied it authority to disregard the long and short haul grain provisions of the Interstate Commerce Act. The road desired to charge lower rates on wheat, corn and hay and articles taking the same rates from Kansas City, Mo., and St. Joseph, Argentine, Kans., Atchison, Leavenworth, Turner, Morris, Holliday, DeSoto and other points in Kansas to Galveston, Tex., Ft. Bolivar and Texas City than are charged from intermediate points on its line.

E. W. Beatty on the Canadian Railway Situation

IN A SPEECH before the Traffic Club of New England in Boston on October 16, E. W. Beatty, chairman and president of the Canadian Pacific said that when Canada was gathering together the greatest publicly-owned railway system on the northern half of the North American continent, some people referred to the illuminating if disagreeable consequences of the United States' excursion into government operation and pointed to it as a horrible example.

"To others of us, however, your experience; while expensive, was fortunate and the results were such and the figures so large that anyone who could run could read, and the dangers of such a situation were brought home to millions of people in a very short space of time," Mr. Beatty continued. "What the result of the present great experiment now being tried in Canada will be, the future alone can determine, and whatever that result is, it will, I hope, in the next few years be communicated to the people of our country in terms which they can appreciate in order that their decision as to the character of their transportation systems in future years may be made with full knowledge of the facts and of Canada's necessities."

Almost 40 years ago, the construction of the Canadian Pacific, the greatest national enterprise Canada has conceived, or carried out, was finally turned over to a private syndicate which furnished the work in five, instead of ten years permitted by the contract, and made the confederation of the Canadian provinces possible. That contract, the speaker said, compelled the incorporators to operate the property in perpetuity as Canada, at that time, was not prepared to take any chances on these men withdrawing after the construction contract was completed.

Later, other railways were built with government assistance in advance of traffic necessities and burdened with heavy obligations. These roads were taken over by the government to avoid financial disaster and dislocation of transportation. Meantime, the Canadian Pacific was vastly extended on land and sea. In 1922 the government consolidated the other systems and the mileage of Canada is now divided between the National system and the Canadian Pacific.

"The Canadian Pacific," Mr. Beatty continued, "is the largest tax-payer in Canada; therefore, the greater the deficits of the National Railways the heavier the taxes of the Canadian Pacific; whereas, if the National Railways are successful, by reason of the diversion of traffic from the privately-owned system, the loss in revenue to the latter is greater than that represented by increased taxation. Again, the greater the revenue of the Canadian Pacific, the greater its contribution to the exchequer of the rival system will be. A more delightfully incongruous situation it is hardly possible to imagine!"

United States' railway executives had told him, Mr. Beatty said, that in their opinion, only two solutions of Canada's railway problem were possible, namely, the extension of the national principle to all railways, or the absorption of the National System by the Canadian Pacific, but neither possibility was within the contemplation of the Canadian people at this time. The word "monopoly" still had a menacing significance in the minds of most people, and the majority of the people of Canada believed that the existence of the two systems under different administrations was a good thing for the country and the transportation companies.

"The existence of the Canadian Pacific is regarded as a stimulus and a model for the government system," the speaker continued, "and the existence of the National beneficial to the Canadian Pacific. Its size and the national credit behind it keeps us from dying of innocuous desuetude, or of suffering from the inevitable evils of complacent conceit."

And so the great experiment is being worked out in a way which I think reflects great credit on the people of Canada. We suffer, as you do, from an excess of politics but Canadians are, in the main, considering their national problems with cool judgment and without hysteria, and this is the attitude of most of the business communities to this particular problem. We share with you under a like system of administration the problem of giving effective public service and of maintaining our properties and our credit. While there are those in both countries who, perhaps, do not give serious regard to the important question of credit which is keenly appreciated by all railway executives, the fact is that we have a common purpose and that is that the railway efficiency of the North American continent shall not be impaired nor the interests of their security holders and shareholders jeopardized."

The speaker expressed his appreciation of the progress which the American railways had made in the last few years in the important matter of public relations. The railways now knew that their very serious problems would not be understood unless explained and that public favor would not be obtained without a sincere attempt to earn it by works and not by words. Referring to "Truth in Advertising," the slogan of the World's Advertising Congress at Wembley, Mr. Beatty declared that the greatest asset and the greatest advertising medium in the world, so far as railways were concerned, was the satisfied shipper and the satisfied passenger.

Second Report on Ingalls Collision

THE BUREAU OF SAFETY of the Interstate Commerce Commission has made a supplemental investigation of the circumstances connected with the collision on the Union Traction Company's line near Ingalls, Ind., on February 2, when 16 passengers were killed and 35 were injured. This collision was reported in the *Railway Age* of May 3, page 1096.

Northbound electric car, train No. 24, and southbound electric car, train No. 21, collided because of misreading or misunderstanding of a meeting order by the men in charge of No. 24, who assumed that the order fixed the meeting with No. 21 when really it required No. 24 to meet No. 23. The investigation disclosed lax operating practice in connection with the registering of trains, the delivery of train orders, the maintenance of automatic block signals and other features.

The supplemental report says that instructions were issued on March 12 forbidding the giving of train orders through third parties and that "the officials have been carefully giving serious attention" to the question of registering properly, etc. The instructions also provide that "no order shall be given to a regular train meeting an opposing train unless the meeting points for all intervening scheduled trains are included."

A new rule book has been issued including rules for the operation of the automatic block signal system; a new train registering system has been provided and train orders and train order books are regularly inspected by certain officers.

The block signal apparatus has been improved; but still the number of signal failures is large. Efforts are being made by the signal department to improve signal performance and "if continued they should result in making the signal system a real safeguard."

In conclusion the present report says:

"The supplemental investigation showed that the officials of this line have been actively engaged in correcting the various practices and conditions which were criticized in

the original report, and that material improvement in the safety of operating practices has been effected. This supplemental investigation also showed what can be done to correct dangerous practices when the proper effort is made."

Railway Mileage of the World, 1922

THE BUREAU OF RAILWAY ECONOMICS has issued the following compilation of the railway mileage of the world taken from Archiv für Eisenbahnwesen for July and August, 1924:

Continent and country	Miles of railway	Continent and country	Miles of railway
America:		French Sudan.....	1,714
Alaska.....	799	Gold Coast.....	194
Argentina.....	23,156	Kamerun.....	193
Barbados.....	498	Madagascar.....	402
Bolivia.....	1,502	Mauritius.....	134
Brazil.....	18,704	Morocco.....	862
British Guiana.....	104	Mozambique.....	455
Colombia.....	926	Nigeria.....	1,126
Canada.....	39,540	Reunion.....	79
Chile.....	5,301	Sierra Leone.....	335
Costa Rica.....	546	Togoland.....	203
Cuba.....	3,005	Union of South Africa.....	11,475
Dominican Republic.....	408	Total—Africa.....	33,629
Dutch Guiana.....	37	Australia:	
Ecuador.....	652	Canberra Federal District..	5
Guatemala.....	613	New South Wales.....	5,444
Haiti.....	167	New Zealand.....	3,011
Hawaii.....	243	Northern Territory.....	198
Honduras.....	559	Queensland.....	7,023
Jamaica.....	199	South Australia.....	3,467
Martinique.....	139	Tasmania.....	867
Mexico.....	16,443	Victoria.....	4,349
Newfoundland.....	951	Western Australia.....	4,839
Nicaragua.....	200	Total—Australia.....	29,203
Panama.....	298	Europe:	
Paraguay.....	309	Albania.....	42
Peru.....	1,988	Austria.....	3,939
Porto Rico.....	340	Belgium.....	6,893
Salvador.....	256	Bulgaria.....	1,624
Trinidad.....	104	Czechoslovakia.....	8,718
United States.....	251,437	Denmark.....	3,086
Uruguay.....	1,653	Estonia.....	890
Venezuela.....	660	Finland.....	2,666
Total—America.....	371,741	France.....	33,281
Asia:		Great Britain.....	24,396
Asia Minor, Syria and Ara-		Germany.....	35,823
bia (incl. Cyprus).....	3,829	Greece.....	1,983
British East Indies.....	40,496	Hungary.....	5,921
Ceylon.....	732	Italy.....	12,501
China.....	6,838	Jugoslavia.....	5,699
Cochin China, Cambodia,		Latvia.....	1,770
Anam, Tonkin.....	1,490	Lithuania.....	1,939
Japan (incl. Chosen and		Luxembourg.....	334
Formosa).....	12,284	Malta, Jersey, Man.....	68
Malay States (Borneo, Cele-		Netherlands.....	2,141
bes, etc.).....	1,163	Norway.....	2,141
Dutch East Indies.....	1,882	Portugal.....	2,129
Persia.....	351	Roumania.....	7,325
Pondicherry.....	59	Russia (Europe).....	30,800
Portuguese India.....	54	Poland.....	9,872
Philippines.....	810	Spain.....	9,644
Russia (Asiatic).....	6,556	Sweden.....	9,436
Siam.....	1,423	Switzerland.....	3,323
Total—Asia.....	77,961	Turkey.....	257
Africa:		Total—Europe.....	228,641
Angola.....	818	Recapitulation:	
Abyssinia.....	495	America.....	371,741
Algeria and Tunis.....	4,220	Asia.....	77,961
Belgian Congo.....	1,263	Africa.....	33,629
British East Africa.....	851	Australia.....	29,203
British Central Africa.....	174	Europe.....	228,641
German East Africa (for-		Grand total.....	741,175
merly).....	892		
German Southwest Africa			
(formerly).....	1,307		
Egypt.....	4,894		
Equatorial Africa.....	1,543		

THE MISSOURI-KANSAS-TEXAS so far this year has established a record of an average of 872,634 passenger car miles for every day on account of hot boxes, compared with 465,873 passenger car miles during 1923. This mileage has been made notwithstanding the fact that the main line cars run between San Antonio and St. Louis makes an average of 15,000 car miles a month or an average of about 100,000 car miles between the changing of packing and the inspection of journal bearings.

Bridge and Building Men Meet at Kansas City

Thirty-fourth Annual Convention Characterized by Valuable Papers and Reports and Instructive Exhibit

WITH THE PLACE OF MEETING of its thirty-fourth annual convention near the geographical center of the United States and in the absence of disturbing influences of the kind with which railway officers have been frequently confronted in recent years, the meeting of the American Railway Bridge and Building Association, which was held at the Baltimore Hotel, Kansas City, Mo., on Tuesday, Wednesday and Thursday of this week, was one of the largest attended in the history of this organization. The registration of members exceeded 250 and the total attendance exceeded 350. As a large portion of the membership of this association is located in the middle west and east, the Atchison, Topeka & Santa Fe provided a special train for the convention party which left Chicago at 8:30 Monday morning, arriving in Kansas City that evening, stopping at a number of points en route to enable the members to inspect interesting bridge and building work.

In conformity with established custom in this organization, the foundation for the convention program comprised reports of standing committees, relating to vital problems of the men of this specialized field. However, some of the most valuable and interesting features of the program were papers presented by members of the association and other well known railway bridge engineers. In addition to papers and reports presented in abstract below, the program included an address by John Lyle Harrington, consulting engineer, Kansas City, on the effect of maintenance on the design of railway bridges; an historic review of the Eads bridge by Charles E. Smith, consulting engineer, St. Louis; a description of the bridge construction involved in the Kansas City terminal by John V. Hanna, chief engineer of the Kansas City Terminal Railway, and a paper by G. H. Trout, bridge engineer, Union Pacific System, on the substructure of the Columbia river bridge at Kennewick, Wash., an account of which appeared in the *Railway Age* of October 11, page 630; and a paper on the making of concrete by H. C. Boyden of the Portland Cement Association, Chicago. Forty-seven firms participated in an exhibit of material and equipment used in this branch of railway construction and maintenance.

The opening of the convention at 10:00 o'clock on Tuesday morning, October 21, was featured by opening addresses by J. F. Holden, vice-president of the Kansas City Southern; J. P. Wood, first vice-president of the Bridge and Building Association; R. H. Aishton, president of the American Railway Association, and J. S. Robinson, president of the Bridge

and Building Association. Mr. Aishton emphasized the value of association work in meeting the demand of the public for more efficient and economical operation of the railways. Both Mr. Holden and Mr. Aishton emphasized the necessity for every railway employee making it his duty to see that those with whom they come in contact are correctly informed about the railway situation in order that they may be able to vote intelligently at the approaching election. Special features of the convention week, outside of the regular morning and afternoon sessions, included a joint meeting with the American Wood Preservers' Association on Tuesday evening, the principal feature of which was a paper which is abstracted below by C. S. Heritage, bridge engineer of the Kansas City Southern on the fire hazard of treated timber. The annual dinner of the Bridge and Building Association and the Bridge and Building Supply Men's Association was held on Wednesday evening. On Thursday afternoon, following the close of the convention program the members of the association participated in an inspection trip over the Kansas City terminals on a special train provided by the Terminal corporation.

Officers

Officers of the association during the present year were: President, J. S. Robinson, division engineer, Chicago & North Western, Chicago; first vice-president, J. P. Wood, supervisor bridges and buildings, Pere Marquette, Saginaw, Mich.; second vice-president, C. W. Wright, master carpenter, Long Island, Jamaica, N. Y.; third vice-president, E. T. Howson, western editor, *Railway Age*, Chicago; fourth vice-president, F. C. Baluss, bridge engineer, Duluth, Missabe & Northern, Duluth, Minn.; secretary-treasurer, C. A. Lichty, purchasing department, Chicago & North Western, Chicago; assistant secretary, F. E. Weise, chief clerk, engineering department, Chicago, Milwaukee & St. Paul, Chicago. At the election of officers on Thursday morning, Mr. Wood was advanced to the presidency of the association and Maro Johnson, assistant engineer, Illinois Central, Chicago, was elected fourth vice-president, Messrs. Wright, Howson and Baluss having been advanced to first, second and third vice-presidents, respectively; and C. A. Lichty and F. E. Weise were re-elected secretary-treasurer and assistant secretary, respectively. C. S. Heritage, bridge engineer, Kansas City Southern, P. N. Nelson, bridge supervisor, Southern Pacific, San Francisco, and W. B. Hotson, bridge supervisor, E. J. & E., Joliet, Ill., were elected directors.

Report on Placing Concrete in Winter

Concrete has been placed successfully in winter for so many years that winter concrete work has come to be generally regarded as entirely feasible, as evidenced by many recent instances on well known railway projects. Much of the concrete work for the piers of the new Castleton bridge of the New York Central over the Hudson river south of Albany, and for the long concrete culverts nearby, was placed during the winter of 1922-23. The Long Island placed over 10,400 cu. yd. of concrete on its Queens track elevation work between December 1, 1923, and March 31, 1924. Concrete was placed in the piers and abutments of the Big Four railway bridge at Sidney, Ohio, during the first three

months of 1923, when the temperature was frequently below freezing. A 6-ft. by 6-ft. culvert, 128 ft. long was built by the Canadian National at Endako, B. C., in November and December, 1922, when the temperature ranged from 20 deg. F. above zero to 53 deg. F. below. At such low temperatures the cost of protecting the concrete is high and concrete work would not ordinarily be undertaken, but this instance shows that concrete structures can be built successfully in extremely cold weather.

Study of the temperature records in northern cities shows that in most places the spells of severely cold weather are short and that on the great majority of days the temperature

during working hours is but little, if any, below the freezing point.

In view of the relatively small amount of severe weather it hardly seems logical to close down construction for five or six months when concrete can be placed conveniently during the entire period, with the possible exception of a few short cold spells. On stormy days actual placing of concrete, or if necessary all work, can be suspended, the same as in summer work. The weather bureau forecasts the temperature for 36 hours in advance with surprising accuracy. With such ample warning of the approach of storms and cold spells, full preparations can be made to meet them.

Winter work has certain disadvantages. Cold weather may retard construction progress. On very cold days men cannot work efficiently outdoors. Concrete materials must be heated and freshly placed concrete must be kept warm the first few days. These features add somewhat to the cost of concrete work.

These are disadvantages, but are they as severe as commonly supposed? An examination of temperature charts shows a few spells of very cold weather lasting a week or less, often only a day. In severe weather the cost of heating the materials and keeping the freshly placed concrete warm may be excessive and the efficiency of workmen may be low, but such weather is infrequent and when it occurs the actual placing of concrete, or if necessary, all work, can be suspended for a few days. During the remainder of the winter in most states the weather is relatively mild: on most days the temperature during working hours is but little, if any, below freezing. It is hardly advisable to stop work for several months because of the possibility of a few spells of very cold weather, each lasting only a few days.

Winter Shut-Down Is Due to Custom, Not Necessity

The real reason for the winter shut-down of construction appears to be not a matter of desirability, feasibility or economy, but a matter of custom and psychology. The annual winter curtailment of construction work in southern states and on the Pacific Coast, where winter weather is generally almost as favorable as summer weather along the Canadian border, is purely a matter of custom and habit.

A generation ago but little machinery was used in placing concrete, or in any construction work. Heating appliances consisted mainly of inefficient, dangerous, open fires. Large gangs of men could not be handled well in cold weather. Modern methods of placing concrete utilize clam shell buckets, power driven mixers, motor trucks and chutes. Power of one or more types, electric, gasoline or steam, is available on nearly every project. Greater use of machinery and equipment in handling materials and in mixing and placing concrete has reduced the man power necessary to place a cubic yard of concrete 50 to 75 per cent. The efficiency of machines is decreased but little if at all by cold weather. Conditions have changed: the old difficulties in winter work have largely been removed.

The committee believes that winter concrete work has five decided advantages: first, less interference with operation; second, possible lower prices of materials; third, year-around use of capital investment in construction equipment; fourth, less labor turnover, more efficient labor, better supervision and improved morale; and, fifth, earlier completion and use of needed improvements.

It is well known that railway traffic is lowest early in the year, reaching a peak in September or October. In 1923, 25 per cent more cars were loaded in October than in January. In previous years the peak was even more marked. Crop movements contribute largely to this peak, but part is also due to the movement of construction materials. Shipments of cement, for instance, are usually four times as large in October as in January. More railway construction

during winter months would relieve the October peak in car loadings, giving more uniform distribution of traffic through the year. It would also stimulate more winter concrete work by industries, governmental bodies and individuals, thus helping to develop more railway traffic in the slack winter season. Furthermore, winter concrete work means minimum interference of construction work with operation.

Lower Prices of Materials

Prices of construction materials are apt to be lower in winter than in summer. Manufacturers often reduce prices in order to stimulate purchases. At Chicago, for instance, the price of reinforcing steel was 12 per cent lower in winter than in summer, and form lumber was 11 per cent lower. At New York sand was 20 per cent lower in January than in July, reinforcing steel was 14 per cent lower, and form lumber 8 per cent lower. It is obviously desirable to take advantage of these lower prices wherever possible.

Another important factor in obtaining materials is prompt delivery. In the peak of the construction season materials are often hard to get. Work must sometimes cease for days or weeks waiting for delivery of needed supplies. Delivery delays add materially to the cost and time of construction. In winter these delays are greatly reduced. Materials of proper quality can readily be delivered on time.

Another feature fully realized by contractors but sometimes not appreciated by railways is the advantage of year-around use of construction equipment. Rental of equipment is often an important item in construction costs. Such charges per day, or per cubic yard of concrete placed, and the capital investment in equipment, are much less when the equipment is working 12 months than when it is working only 6 or 8. If a contractor can work steadily through the year, his equipment costs per unit of work are lower. Railroad equipment may be idle, but interest, taxes and depreciation continue just the same. Furthermore, year-around use of equipment will often reduce the total amount of equipment necessary and may postpone or avoid the purchase of expensive cars, mixers, chutes and forms. This possible saving by means of a 12-month program should be carefully considered.

Less Labor Turnover

Seasonal employment is a reproach to modern civilization. Why force men to work overtime in August and then lay them off in November? Railway traffic was heavy and more uniform than usual in 1923. Nevertheless, there were 11 per cent more railway employees in August, 1923, than in either January, 1923, or January, 1924. Over 150,000 railway employees, largely from construction and maintenance forces, were laid off for the winter season. With intermittent, seasonal work, railroad concrete gangs do not attract or hold efficient workmen. Railroad work becomes a training school from which other organizations benefit. Inefficient, ignorant workmen add to the cost of concrete and lower its quality. With continuous work, more efficient men could be employed and held, with resultant economy in cost and better quality of work.

Union wage scales and railroad wage rates do not fluctuate during the year, but unit labor costs vary appreciably. In summer months men are usually scarce; on contract work, bonuses, overtime and similar devices are often adopted in order to attract and retain workmen. In the slack winter months such devices are not necessary. Moreover, when jobs are scarce, morale improves: men work harder and there is less friction. Even if wage rates per hour or per day are the same in winter as in summer, unit labor costs per yard of concrete are apt to be lower.

Conclusions

From the foregoing study of this subject the committee has reached the following conclusions:

1. Concrete can be placed successfully regardless of the temperature if proper methods are used.

2. Where temperatures seldom fall to zero, concrete can be placed efficiently and economically all through the winter with only a few interruptions due to severe weather.

3. The extra cost of protecting concrete in cold weather on railwork is usually less than 5 per cent.

4. The economies of winter work due to lower prices of materials, more efficient labor, and freedom from material delays, usually offset the cost of protection and may show a net saving.

5. The advantages of better distribution of traffic, less interference with operation, continuity of employment, improved morale, better supervision, possible lower construction costs, and earlier use of needed improvements, make a 12-month program of concrete work highly desirable.

Therefore, the committee recommends that members of the

American Railway Bridge and Building Association give serious consideration to the question of continuing concrete work on projects now under way, and to the advisability of starting work now on concrete projects planned for next year.

Most members of the American Railway Bridge and Building Association are familiar with approved methods of placing concrete in winter and the reasons for the various precautions. But for the benefit of the newer supervisors and foremen the committee presents, in Appendix A, information on the action of concrete in hardening, the effect of frost thereon, and approved methods of handling concrete work in cold weather. Appendix B contains a partial list of articles and books bearing on this subject that have been published in the last few years.

The report was signed by F. P. Gutelius, Jr., chairman (D. & H.); T. H. Strate, vice-chairman (C. M. & St. P.); D. A. Tomlinson (Port. Cement Assn.); E. L. Goldsmith (L. I.); D. H. Dickerson (D. & I. R.).

Report on Smoke Jacks for Roundhouses

At the present time there are jacks of wood, transite board, cast iron, and concrete. The size of the flue opening seems to have been based largely on experience. A certain size of flue has been retained as standard until smoke conditions resulting from the use of larger engines have made the adoption of a larger jack opening imperative. Undoubtedly this situation has had considerable to do with the life of some jacks. One large road reports the use of 30-in. flues as satisfactory prior to the acquisition of Mikado locomotives, but that these engines forced the adoption of 36-in. flues, and, with the advent of still larger engines, 40-in. flues are being used. The locomotive grate area in each case, compared with the jack flue area, is as follows:

Type of Locomotive	Grate Area	Flue Area	Ratio
Consolidation	50 sq. ft.	4.21 sq. ft.	0.084
Mikado	70 sq. ft.	7.07 sq. ft.	0.101
Santa Fe	88 sq. ft.	8.73 sq. ft.	0.099

This would indicate that, in a well designed house, the area of the jack flue should be about 10 per cent of the grate area of the largest locomotives to be accommodated.

Caps over the flues have, until recently, been thought necessary in cold climates, but in the south these are not always provided. When metal straps support the caps they are frequently the first part of the jack to fail. With the larger jack flues there is a considerable loss of heat from the house, although the low hung hood prevents this from being as large as would result from a clear roof opening. Some jacks have been equipped with dampers to overcome this heat loss. A rod leading from the jack to an adjacent post and down the post to within reach from the floor controls the damper. It would seem as though such a device should accomplish the result desired, but some of the roads that have tried the dampers report that little attention is paid to them by shop employees and they are not now installing them. It has been claimed that, even when open, they obstruct the free escape of the smoke. In such cases the tendency is to leave them open all the time. A variation of the damper idea is a removable cap, also operated by a rod leading down an adjacent post. This requires the same attention as a damper.

The length of hood in the direction of the track is usually not less than 8 ft., but a 10-ft. length is more common and there are numerous installations of still longer hoods. Occasionally, a double hood is used, giving a total length of 20 ft. The width of the hood is ordinarily about 3 ft. 6 in., the lower side section being given a little extra flare and being equipped with a drip trough. The slope of the ends

should not be too flat or the smoke will hang in the hood. An angle of 65 deg. with the horizontal is about right. The hoods of some of the larger cast iron jacks have been made with wooden sides fire-proofed. This materially lessens the weight.

Wood, Asbestos, Cast Iron and Concrete Jacks

The wooden jacks now on the market are quite different from the old home-made jack, being built up of laminated planks consisting of strips of redwood or fir 2 in. square. Each strip is nailed to the next adjoining and the nails covered by the following strip. The planks are cut to form the sides, ends, and flue of the jack and are held together with countersunk wood screws. When the jack is in position all strips are vertical. The surface is painted with fireproof paint. The jack is light in weight and on that account is well adapted for use in old houses. Unless the material from which these jacks are made is well seasoned, they are subject to some of the troubles which affected the old wooden jacks and there may be some question as to the continued effectiveness of the fireproofing. The weight of a wood jack with a 12-ft. hood and an 8-ft. flue 40 in. square is 1,520 lb.

Transite jacks are of about the same weight as wood jacks, but entirely fireproof. They are made up of sheets of transite board, which is composed of asbestos fibre and portland cement, mixed together and pressed into sheets. The parts of the jack are held together with bolts. The heads and nuts of the bolts, after placing, are covered with asbestos cement, and open joints are filled with this material. This work must be well done to be effective. While transite board is not as strong as other materials, this is not important if the jack is not subject to blows. Thicker material is used for the flues than for the hood and this should increase the life of the jack. The life of transite jacks varies from 5 to about 12 years. A jack of this material with a 10-ft. hood and an 8-ft. flue 42 in. square weighs about 1,500 lbs.

The hood of the cast iron jack is likewise made of thin plates. The flue, however, is made of cylindrical sections. All parts are held together by bolts. The heads and nuts of the bolts are inset in cast iron covers. The jack is fireproof and its life is generally about 15 years. The weight of a jack with a 12-ft. hood and a 7-ft. stack 40 in. in diameter is 5,400 lbs.

Concrete jacks have been built in place as a part of concrete roundhouses and have also been built as pre-cast units and installed in houses of other construction. Some of the earlier built-in-place jacks went to pieces, possibly as a

result of poor concrete. The unit jack is built in three pieces, hood, flue and cap, the walls being 2 in. or less in thickness and plastered onto a form rather than poured. The committee does not know of any house entirely equipped with unit concrete jacks, but has learned of several experimental installations. The concrete in these jacks has stood up very well. The weight is somewhat more than cast iron, depending on the thickness. It is claimed that such a jack can be made after forms are acquired for about two-thirds the cost of a transite jack. In two of the houses in which concrete jacks have been installed, it is stated that it takes a considerable time to warm them up and until this is done they do not draw well.

Smoke Jacks for Other Buildings

The jacks herein described are for use with stoves or small heaters on buildings where brick chimneys are not provided. They have an advantage over chimneys in that they can be placed at any point on the roof and thus allow the stove to be properly located in the building without the use of an excessive amount of stove pipe.

The simplest jack is a pipe of galvanized sheet iron the same diameter as the stove pipe with a flange plate riveted to

the pipe and nailed to the roof sheeting under the roof covering. The plate must be of such size that the heat transmitted through it will not fire the roof.

An improved type has a second and larger pipe surrounding the smoke pipe. The larger pipe is in direct contact with the roof. There is an annular air space between the outer and inner pipe. These jacks are made in various forms. For temporary or isolated buildings they are fairly satisfactory but must be watched for deterioration as any break in the metal is a fire hazard.

For permanent buildings, or temporary buildings around a terminal, the cast iron jack is safer and it has a much longer life. In principle it is similar to the type last described, employing the air space to safeguard the roof. They can be obtained with adjustable roof sections to fit various roof slopes. Some attention must be given bolts and rods on the adjustable type as the jack may fall as a result of their failure. These as well as all other jacks should be provided with a cap.

The report was signed by Maro Johnson (I. C.), chairman; J. K. Bonner (N. Y. C.), vice-chairman; V. E. Engman (C. M. & St. P.); T. D. Kemp (Sou); A. B. McVay (L. & N.); E. R. Wenner (L. V.).

The Fire Hazard of Treated Timber

By C. S. Heritage

Bridge Engineer, Kansas City Southern

Since our annual timber consumption is rated at four and one-half times that which is replaced by growth, it is becoming increasingly necessary to conserve what remains of the nation's supply of timber for our future requirements. Wood preservation presents one of the important channels through which conservation can be assisted. The use of treated timber is enormous and will become greater so the subject of the fire hazard of this class of material is increasingly important.

The great bulk of treated timber is treated with zinc chloride or creosote oil. Of the fire hazard of timber treated with zinc chloride, H. M. Rollins, vice president of the Gulfport Creosoting Company, states that zinc chloride is deliquescent in its nature, absorbing moisture from the air quickly and therefore is not very combustible. The presence of zinc chloride in timber fireproofs it to a great extent. Any attempt to burn timber treated with zinc chloride will quickly demonstrate that it is less combustible than a similar piece of untreated timber. Zinc chloride enters largely into the make-up of fireproof compounds and a knowledge of its properties will convince anyone that its presence in timber decreases the inflammability.

For railroad purposes, the use of zinc chloride treatment is confined largely to ties, which do not constitute much of a fire hazard after they are placed in the track. Even when ties are piled on the right-of-way, the loss from fire will be small as compared with large structures, as the fire can usually be confined to a few piles. Also, a fire of this nature does not interfere with railroad traffic as in case of a bridge fire.

Bridge and structural timbers, when treated, are nearly always creosoted. Therefore, the fire hazard of creosoted timbers is of the most importance.

The opinion seems to be prevalent among engineers and others that the fire hazard of creosoted timber far exceeds that of untreated timber. From what I have been able to learn, the hazard is less than for untreated timber. This opinion is founded on the fact that certain disastrous fires have occurred in creosoted structures which have been given wide publicity and also to the fact that the dense smoke and

fierce fire of creosoted timber gives it the appearance of burning more freely than untreated timber, while actually less wood is being consumed and the fire is being fed largely on the creosote oil instead of the timber.

There is a considerable difference in the fire hazard of timber when it is freshly creosoted and after seasoning for several months has afforded time for the more volatile surface oils to evaporate. When timber is freshly creosoted, the surface oil is more easily ignited, and if the fire is started it spreads more rapidly than after it has seasoned. After a period of six months to one year, the more volatile oils have evaporated and the creosoted timber is much more difficult to ignite.

The Kansas City Southern has had some disastrous fires on open deck creosoted trestles. On April 14, 1915, bridge A-225, a 330-ft. trestle from 12 to 20 ft. high, was ignited by fire dropping on the structure from a defective locomotive. The fire spread rapidly and the bridge was almost entirely consumed. This bridge was of freshly creosoted timber. Bridge A-477, 1,320 ft. long, was almost entirely burned on February 14, 1918. This bridge also had an open deck of new freshly creosoted timber. Bridge A-765, a 630-ft. open deck trestle about 25 ft. high, was burned on June 13, 1918. This timber had been creosoted about two years. The deck was entirely destroyed and the piles were so badly burned that most of them had to be cut out and replaced with frame bents. There is no reason to believe, however, that fires of a similar nature on untreated bridges would have been any less disastrous. It is likely that these fires would not have occurred on ballasted-deck structures or, at any rate, the damage would have been less.

In September, 1922, bridge B-480, a 525-ft. creosoted open deck trestle, 13 years old at the time, ignited and was burning freely. The fire was extinguished after five or six hours and only 10 out of the 50 panels had to be replaced. In 1910, bridge A-103, a creosoted trestle 200 ft. long and about 20 ft. high, was ignited and burned four or five hours. After the fire was extinguished traffic was resumed over the bridge without any repairs being made. Later the bracing and part of the deck was replaced, but the piles, caps and

stringers remained in service almost nine years more, until the bridge was replaced with a steel girder. This bridge at the time of the fire had a solid gravel covered deck.

In 1915, the Kansas City Southern had a large bridge fire that is of interest in this connection. The 1,360-ft. trestle approach to the Poteau River bridge, on the Fort Smith branch, was ignited and burned for several hours. This bridge was of untreated pine, but creosoted piling for a new structure had just been driven between the old bents. About 55 of the 119 panels were burned out and several more panels badly charred. In this fire the untreated piling was practically consumed by the fire, while the creosoted piles suffered much less damage.

The Missouri-Kansas-Texas furnished data as to the burning of fence posts on its lines for the years 1920 and 1921 which appeared in a committee report of the American Wood Preservers' Association presented at its annual meeting in 1923. Of more than 2,000,000 fence posts, 18.7 per cent (or approximately 378,000) were creosoted. Of the 5,871 posts destroyed by fire during the period only 76 of them were creosoted posts. The percentage of untreated posts burned to the total number of untreated posts was 0.35 per cent, and of the creosoted posts, 0.02 per cent.

The use of creosoted telegraph and telephone poles is growing, and the following, taken from a report of the American Telegraph & Telephone Company on poles in a line between New Orleans and Mobile, gives some facts on fire resistance. This line was constructed in 1899 of creosoted pine poles and was inspected in 1906, seven years later. Many of these poles were set in a swamp where grass and weeds grow to a height of 20 ft. When dried out, these weeds and grasses burned so fiercely that the glass insulators cracked and the copper wire on the poles annealed. In the section of the line examined in 1906, 2,152 poles were examined. Eleven were found slightly burned and three badly burned. The report also states that as compared with untreated poles, fire seems to have small effect on creosoted poles and that a parallel telegraph line of juniper poles exposed to similar conditions suffered to a much greater extent.

We have a considerable mileage of creosoted telegraph poles on the right-of-way of the Kansas City Southern, none of which have ever been damaged by fire from burning grass although many of them have been subjected to this condition. We have a creosoted telegraph pole in Texarkana which was exposed to a big fire in a lumber yard on April 22 of this year. There was a large pile of lumber near the pole in question. The fire was so hot that the telegraph wires were melted and cross arms were burned off. About 18 in. of the top of the pole burned off, but the remainder of the pole was only charred and was continued in service after new cross arms were put on. Our superintendent of telegraph believes that an untreated pole exposed to similar conditions would have been entirely consumed.

The conclusions reached from the information obtained are that after creosoted timber has seasoned so that the more volatile oils have evaporated, the fire hazard is much less than for freshly creosoted timber and that the fire hazard of creosoted timber which has seasoned for six months or more is less than for untreated timber, and decreases somewhat as the seasoning process continues.

One important feature that makes creosoted timber safer than untreated timber with respect to fire risk is the ease with which untreated timber will ignite when fire comes in contact with any decayed parts. Even when untreated timber is

sound, it is more easily ignited than seasoned creosoted timber. Another feature to be considered in connection with the burning of creosoted timber is the fact that the fire will burn for a considerable period while being fed on the creosoted oil without consuming much of the timber. This condition gives more time to organize for fighting of a fire.

It must be recognized that in a large fire of creosoted timbers, the oil as well as the timber will be burning and it is possible to have a fire that is hotter and more difficult to control than a fire of untreated timber and at the same time it may be consuming less timber.

From the fact that creosoted timber is combustible, and the loss of a creosoted structure is greater than for a similar untreated structure, it is of utmost importance that creosoted structures should be designed and built so as to reduce the fire hazard as far as practical and further that reasonable means should be provided for fighting the fire after it does get started. Investigations of fires on railway trestles indicate that 90 per cent of these fires are caused by sparks falling on the deck, usually from locomotives. For this reason the ballasted deck trestle is one of the best preventives of fires. If open deck trestles are used, some protective covering is recommended. Sand used on top of creosoted ties and other exposed timbers has been found to be quite effective. Neat cement has also been used for this purpose. Sheet metal coverings are also used frequently. In addition to a reasonable amount of protection on the deck of trestles, it is important to keep the ground underneath and around the ends of the trestles cleaned of dry grass and weeds.

Sand or cement are sometimes used on top of freshly creosoted ties on open decks of steel bridges.

All timber bridges on railways should be provided with some simple form of fire fighting equipment. This is usually in the form of water barrels set at intervals along the bridge. For creosoted structures sand boxes with water tight covers for keeping the sand dry are recommended, dry sand being more effective than water for extinguishing small fires on creosoted structures.

On very long trestles, it is advisable to have fire barriers at intervals to check the spread of a fire and confine it to one section of the trestle. This can be effected by inserting a few panels of concrete trestle or by putting in a concrete pier, with wings flaring beyond the width of the trestle, to replace one of the bents at desired locations. When practical, it is desirable to divide very long trestles into shorter sections by filling a few panels at intervals.

Where timber roadways are used on steel bridges, they should be designed to retard the fire all possible. Creosoted blocks on a concrete base are practically fire proof. If the blocks are laid on timbers or for a floor of timber plank on stringers, the space between the stringers over the floor beam should be blocked off to prevent a draft through these openings and to retard the spreading of the fire underneath.

On long docks and wharves, fire walls should be placed at suitable intervals and these walls should extend down to low water mark to prevent the spreading of the fire underneath the structure.

Creosoted ties piled on the right of way should be covered with earth to prevent their ignition from sparks.

Owing to the increase in use of treated timbers, especially creosoted timbers, it is very desirable that more extensive investigations be made to determine more exactly, the relation of the fire risk of creosoted timber as compared with untreated timber.

Report on the Inspection of Painting

The inspection of painting may well be considered under two heads, (1) the inspection of work while in progress as a means of assuring that the painting is properly done, and (2) the periodic or service inspection of the painted structure as a

means of ascertaining its state of preservation. Both have for their ultimate object the protection of the structure from the weather through the agency of a paint coat, the first by insuring that a good coat is obtained and the second to see

whether the coating is still serving its purpose effectively or is in need of renewal. The service inspection has the further object of providing data whereby the service rendered by a paint or paints may be carefully studied.

Inspection of Workmanship

Measures to insure good workmanship of railroad bridge and building painting must be considered from the standpoint of both contract and "company" work, since it is only in the case of the former that it is ordinarily deemed necessary to employ an inspector for the purpose of maintaining a detailed check on the work while it is in progress. In the case of painting done by company forces, the check on the work is effected through the machinery of the maintenance of way organization in the form of the supervision exercised by the general painter foreman, master carpenter, division engineer, etc.

When any work is let by contract it is a part of prudent business to have it inspected while in progress to insure that it is being done properly. Painting is no exception to this rule. Since, in general, indifference or carelessness in building painting is usually discernible after the work has been completed, whereas in bridge painting many of the defects are concealed, detailed inspection during the course of the work is most necessary for the latter.

Service Inspection

On by far the great majority of the railroads the service inspection of painting is conducted purely as an incident to

the general inspection of the fixed property by the maintenance of way and structures organization, which includes frequent periodic inspections by the bridge and building supervisor, supplemented by seasonal or annual inspections by division officers and, as a rule, by annual inspections by system officers. Under this plan the paint on bridges and buildings is among the items which receive consideration in judging the physical condition of the various structures. And as these inspections are the basis for the annual budget of maintenance appropriations, it serves also as the means of determining the items on the annual painting program.

Some roads carry this plan a step farther, with respect to steel bridges, by the employment of bridge inspectors, who make much more detailed examinations of the bridges than can be carried out by the division inspection parties, which cover many miles of line in a day's time. Railroads that maintain this inspection service justify it by the more complete records of the physical condition of their bridges which it affords not only as to the metal but also as to the condition of the paint at any given date and the service obtained from the paint applied. The committee is of the opinion that the railways may well give consideration to a further extension of this idea through the employment of district or system inspectors of building painting, if not also of bridge painting.

The report was signed by Martin Kane (D. & H.), chairman; W. S. Lacher (*Railway Age*), vice-chairman; G. M. Hoffman (P. & R.); J. S. Airmet (O. S. L.); Charles Ettinger (I. C.); J. R. Shean (Los Angeles), and R. E. Wait (Wab.).

Report on the Maintenance of Water Stations

The reading of the paper was followed by active discussion which confirmed conclusions presented, statistics on fire losses on a number of roads clearly demonstrating that the use of treated timber introduced no added danger of fire. A number of speakers urged care to eliminate possible causes of fire such as the removal of grass and brush from around the pile bents.

The delay and inconvenience in the operation of trains caused by the failure of a water station to deliver its usual adequate supply of water cannot always be measured in dollars, but the expense is always considerable, and everything that can be done to keep such a station in proper working order is essential. The maintenance of tanks, pumping machinery, pipe lines, water-columns, intakes, windmills, treating plants and other accessories involves a multitude of problems that must be solved promptly and effectively by the man who is directly responsible.

In order to prevent failures which would cause a shortage of water for locomotive use, the repair man should be in charge of the pumpers and helpers, handle all routine repairs, instruct the pumpers as to the operation and care of equipment and see that everything is done to keep all facilities in first class condition at all times. By following a regular schedule of routine repairs the water stations on any railroad can soon be placed in a condition to render continuous reliable service and reduce the cost of supplying water.

Repair Gangs

In addition to the district repair man, each heavy division should have a repair gang to make all repairs to water tanks, including carpenter work, iron work and painting, and should also handle the changing out of pumps and boilers and such other heavy repair work as the district repair man is not in a position to handle.

All maintenance should be based on a well balanced and carefully planned program. A definite program, closely followed, will in large measure eliminate the need of emer-

gency repairs. While it may not be possible to anticipate or prevent all possible emergencies, a definite plan, having in view maintenance of a permanent nature, sets up a standard that cannot help but produce good results.

It is the opinion of the committee that the maintenance of water stations should be under the direct supervision of the division supervisor of water service and that all water service employees should report to him. The division supervisor should report to the division engineer or directly to the superintendent of water supply.

C. R. Knowles, Illinois Central, W. T. Krausch, Burlington, and R. C. Bradwell, Chesapeake & Ohio, stressed the increased complexity of water station maintenance and operation and urged greatly the study for the perfection of organization and method.



P. & A.

The King and Queen of England at Euston Station, London

Accident Investigations for Second Quarter*

Bureau of Safety Reports on Thirteen Collisions and Ten Derailments for this Period

THE BUREAU OF SAFETY of the Interstate Commerce Commission has issued its quarterly summary of accident investigations No. 20, for the months of April, May and June, 1924, covering 13 collisions and 10 derailments. Six of these investigations have already been noticed in the *Railway Age*, as stated. Abstracts of the rest of them are included below:

TRAIN ACCIDENTS INVESTIGATED—APRIL, MAY AND JUNE, 1924

1044	Richmond, F. & P.	Woodford, Va.	April 2	D
1045	Illinois Central	Centralia, Ill.	April 16	C
1046	Atlanta, B. & A.	Atlanta, Ga.	April 20	D
1047	Norfolk & Western	Ashland, W. Va.	April 22	D
1048	Norfolk & Western	Vaughn, Va.	April 28	C
1049	Southwest Missouri	Lowell, Kan.	May 3	C
1050	Southern Pacific	Ulmoris, N. M.	May 5	D
1051	Louisville & Nashville	Dividing Ridge, Ky.	May 6	C
1052	Georgia Railroad	Augusta, Ga.	May 9	C
1053	Seaboard Air Line	Apex, N. C.	May 18	C
1055	Seaboard Air Line	Lakeview, N. C.	May 21	C
1056	Cincinnati, N. O. & T. P.	Cardiff, Tenn.	May 29	D
1057	Wabash	Williamsport, Ind.	June 1	D
1058	Boston & Albany	Worcester, Mass.	June 3	D
1059	New York, N. H. & H.	Cornwall Bridge, Conn.	June 13	D
1060	Nashville, C. & St. L.	Adairsville, Ga.	June 19	C
1061	Central Vermont	Sharon, Vt.	June 20	C
1062	Gulf, Col. & Santa Fe	Big Creek, Tex.	June 21	D
1063	Chicago & E. I.	Otter Creek Junct., Ind.	June 23	D
1064	Hocking Valley	Linworth, Ohio	June 24	C
1065	Unadilla Valley	Bridgewater, N. Y.	June 25	C
1066	Atlantic Coast Line	Lakeland, Fla.	June 27	C
1067	Chicago, B. & Q.	Buda, Ill.	June 30	C

Richmond, Fredericksburg & Potomac, Woodford, Va., April 2.—Southbound passenger train No. 87, one locomotive and 10 cars, moving at about 60 miles an hour or faster, derailed at about 2 a.m. by a broken rail. The locomotive was overturned and the engineman killed; five persons were injured. The rail, weighing 100 lb. per yard, was 15 years old. The fracture began in the web under the splice bar at the receiving end. The inspector notes the "necessity for the most careful scrutiny in track inspection of rails for the detection of incipient lines of rupture."

Illinois Central, Centralia, Ill., April 16.—Collision of locomotives in a large freight yard due to failure to keep a good lookout on the part of the men in charge of engine 1825. The fireman of the other engine was killed and its engineman fatally injured.

Atlanta, Birmingham & Atlantic, Atlanta, Ga., April 20.—A switching engine, moving backward, at low speed, was derailed on a 10 deg. curve and a switchman, riding on the rear footboard of the tender, was killed. The inspector concluded that the derailment was caused by the insecure condition of a rail joint on the outside of the curve, coupled with defective condition of the freight tender truck. The rail joint in question was found to be very loose; and the bolster of the tender truck was broken so that the tender frame settled down in such a way as to reduce the weight resting on the truck at the other end of the tender; this lessened the resistance of the wheel flange against the rail. The foreman who had neglected to report a crack in the bolster is held to be open to censure.

Norfolk & Western, Ashland, W. Va., April 22.—A freight train consisting of two locomotives and 17 cars of coal, moving down a steep grade, on the North Fork branch, became uncontrollable and was derailed on a curve of 16 deg. while moving at about 50 miles an hour; and two trainmen and one trespasser were killed. The inspector finds that the

air brakes were not properly tested at the beginning of the trip, the train having been running only about two miles before the disaster occurred.

Norfolk & Western, Vaughn, Va., April 28.—Collision between the southbound locomotive without train and a northbound locomotive belonging to a work train but detached from its cars; one man riding on the southbound locomotive was killed and one other employee was injured. The block system on this line is in effect for passenger trains only. The work-train engine was detached and moved northward for the purpose of running around its cars, and in doing so ran beyond the flagman who had been posted to protect it; and the order on which the southbound engine was running made no mention of the work-train. The inspector puts the blame on the work-train and on the dispatcher who sent the incomplete order. The work-train engineman received word from the flagman that an expected southbound regular passenger train would arrive at a certain time (allowing him time to run around his cars) and he then carelessly assumed that he need not protect against anything ahead of this passenger train. After explaining these operations and details to the extent of four pages, the inspector concludes with the sapient observation that "had an adequate automatic control system been installed on this line, this accident would not have occurred."

Southwest Missouri, Lowell, Kan., May 3.—Collision between westbound passenger car No. 36 and eastbound passenger car No. 65, making a bad wreck. The cars telescoped about 15 ft. and the wreckage took fire, burning up one car. Two passengers were killed and 48 passengers and one employee were injured. The collision was caused by the misunderstanding of a train order. This electric line keeps no written record of train orders and has no time-table, train sheet, train-order book or block-signal system. Orders are given orally by the dispatcher over the telephone to the conductors, at the stations along the line, and the conductor repeats them orally to the motorman. The dispatcher has in his office a dictaphone which records what he says to the conductors but does not record what the conductors say. In the present case the dictaphone record was tested on three different machines but the order could not be identified; although in all of the reproductions the words "go to Lowell" were very distinct. This is what the dispatcher claims that he said; the conductor, however, says that he was told to go to Baxter; and he claimed that when he repeated these words to the dispatcher he received the dispatcher's approval. Motormen are required if practicable to listen to the conductor when he is at the telephone receiving and repeating orders but the motorman in this case was absent in a drug store; had he complied with the rule, he would have heard the correct wording of the order and the collision probably would not have occurred. The conclusion of the inspector is that the railroad "does not require an extensive system for the operation of its trains" but ought to have train orders written out; also, this is an accident which "could have been prevented by an automatic train control system."

Southern Pacific, Ulmoris, N. M., May 5.—Eastbound passenger train No. 4 ran over a misplaced facing point switch at about 30 miles an hour and was derailed at a Hayes derailer, on the side track; and the locomotive was overturned. The engineman was killed and two passengers and one employee were injured. The switch had been left misplaced by the foreman of a gang of men who were installing signals. He ran his motor car into the side track

* The last ten preceding quarterly summaries of accident investigations were abstracted in the *Railway Age* as follows:

No.	Date	Page	No.	Date	Page
No. 10	June 10, 1922	1,343	No. 15	July 21, 1923	317
No. 11	June 17, 1922	1,483	No. 16	Sept. 15, 1923	479
No. 12	Sept. 2, 1922	426	No. 17	July 5, 1924	11
No. 13	Dec. 30, 1922	1,239	No. 18	July 5, 1924	11
No. 14	Mar. 24, 1923	815	No. 19	July 19, 1924	104

and left the switch to be attended to by his men, who did not straighten it. It appears that there is a rule, not regularly observed, requiring that such cars be lifted over switch points instead of moving the switches. The red target of the switch was 18 inches in diameter (invisible when switch is set straight). The engineman had a view of it for about 1,000 ft. but there were freight cars, painted red, and other objects, which tended to impair its visibility.

Louisville & Nashville, Dividing Ridge, Ky., May 6.—Southbound freight train No. 111, moving slowly on a side track passed beyond the clearance point and was run into by northbound passenger train No. 10, moving at about 40 miles an hour. The locomotives were badly damaged and one car in the passenger train was wrecked; one flagman killed and 40 passengers injured. The freight engineman is held responsible for not moving with care on the side track; but there was no derail at the proper location at the side track; if this safeguard had been provided the collision would not have occurred. The fireman of the freight was inexperienced.

Georgia Railroad, Augusta, Ga., May 9.—Collision between a work train moving west and an extra freight moving east; one trackman killed and ten other employees injured. The work train was running on an order requiring it to protect against the extra, but both conductor and engineman forgot this part of the order although they had traveled only a short distance and had not got outside of yard limits. They had had the order only about a half hour. The fireman of the work train had not been told anything about the order to protect against the extra; and he could neither read nor write. The dispatcher is held to be open to criticism for not giving to the freight a copy of the work train order. He had expected that the freight would arrive at the terminal before the work train departed. There is no block signal system on this line and the collision occurred within yard limits, but the inspector adds his usual suggestion that "if an adequate automatic train control system had been in use, the collision would undoubtedly have been prevented."

Seaboard Air Line, Apex, N. C., May 18, 4 p.m.—Southbound express train No. 45, consisting of locomotive No. 211, fifteen express cars and one coach, standing at the main track at the south end of the station yard, was run into by northbound passenger train No. 44, a locomotive, one baggage car and two coaches; and six persons were killed—one passenger, one news agent and four employees off duty; and one passenger and seven employees were injured. Both locomotives were badly damaged and two or three cars in each train were wrecked. The northbound train should have entered the side track but continued on the main track at practically full speed. Engineman O'Daniel of this train, who was at fault, was fatally injured, dying two days later.

At Apex there are two southbound passing tracks, the one south of the station being known as the "old southbound passing track." This track was named in the dispatcher's order as the one at which these trains should meet, and it is believed that Engineman O'Daniel read the order with insufficient care and did not notice the word "old". The regular engineman of No. 44 had gone into the baggage car, and O'Daniel, who was a passenger on the train, had taken his place as a matter of courtesy; but, the inspector condemns this transfer without authority. The explanation that the engineman gave up his place because he was ill appeared to be doubted by the inspector. The conductor did not know of the transfer until the train had proceeded a considerable distance; but he did not question the propriety of the acts of the enginemen, as an assistant road foreman of engines was on the train. Both enginemen had talked with him but he says that what he said to the engineman in charge of the train ought to have caused the latter to immediately return to the engine. Two of the trainmen thought the meet was to be made at the siding north of the station and the report contains a long discussion on what

had been the custom in connection with these sidings. A brakeman of train No. 45 should have gone forward and turned the switch to let No. 44 into the sidetrack, but this man was in the coach at the rear of the long train and he had gone forward less than half the length of the train when No. 44 appeared. The operator at the station said that the old southbound passing track was used as a meeting point only about three or four times a month.

The conclusion of the inspector is that the "crew" of No. 44 is responsible. It appears that the conductor was not paying close attention to the movement of his train as it had nearly reached the switch, at which it should have entered a passing track, before he realized that the speed had not been properly controlled. The rule requiring a superior train to set the passing track switch for an opposing train which is to be met is found to be poorly observed; on passenger trains the head brakeman does not ride on the locomotive except when the train is to head in on a passing track. However, there is no certainty that No. 44 would have avoided derailment even if it had taken siding.

The report concludes with the stereotyped phrase that an automatic train control device would have prevented the collision. Engineman O'Daniel had been in the service four years and had had experience previously on another road; but there was no evidence that he had ever before run a passenger train.

Seaboard Air Line, Lakeview, N. C., May 21.—Rear collision of freight trains due to disregard of the rule to keep speed under control while running on a permissive block signal; one laborer killed, one other employee injured. This collision was reported in the *Railway Age* of August 2, page 194.

Cincinnati, N. O. & T. P., Cardiff, Tenn., May 29.—A northbound freight train was derailed by the breaking of an equalizer hanger on the leading truck of the locomotive, and the engineman, fireman, and one brakeman were killed. The inspector found that the hanger had been imperfectly forged. It was built up of four separate pieces, welded together. In the loop at the upper end of the hanger, the fibers of the iron were crimped, bringing the principal strains of tension crosswise the grain. The hanger showed abnormal wear, and as the locomotive had been in the shops a short time before the worn condition of the hanger should have been discovered and corrected.

Wabash, Williamsport, Ind., June 1.—Eastbound passenger train No. 2, moving at about 50 miles an hour, was partially derailed at an unfastened switch and a part of the wreck fell against a freight train standing on a side track. One sleeping car came to rest with its left side against the freight locomotive and steam from a ruptured pipe scalded many passengers. Thirteen persons were killed, including six passengers, six employees off duty and one employee on duty; 44 passengers and four employees injured. This derailment occurred about midnight and the conclusion of the inspector is that the switch had become loose after the engine and three cars passed over it, having been left unfastened by a brakeman of the freight train. The lock of the switch was found on the ground nearby.

Boston & Albany, Worcester, Mass., June 3.—Westbound passenger train No. 59 derailed by excessive speed on irregular track, or perhaps by an obstruction on the track; three employees killed, thirty passengers and one employee injured. This derailment was reported in the *Railway Age* of August 16, page 282.

New York, New Haven & Hartford, Cornwall Bridge, Conn., June 13.—Northbound mixed train No. 574 derailed while moving at high speed on a curve of 7 deg. 45 min. The track was found to be in good condition. There was a permanent slow board limiting speed to 40 miles an hour on this curve, which regulation was not observed, and the locomotive was overturned by centrifugal force. The report holds that the maximum speed was being greatly exceeded.

Nashville, Chattanooga & St. Louis, Adairsville, Ga., June 19.—Collision, about 5 a. m., between southbound passenger train No. 3 and a northbound work train, each train moving at about 30 or 40 miles an hour, overturning both locomotives, killing three employees, the engineman and fireman of the work train and a watchman who was riding with them; and 20 persons were injured. The work train was running on the time of the passenger train but, the engineman and fireman having been killed, there is no way of determining the reason why they overlooked train No. 3; the conductor, however, admitted that he had entirely forgotten the passenger train. Two brakemen are also held jointly responsible as, if they had been attentive to their duties they would have noticed that the train was passing Halls without right. The report calls attention to the need of a block signal system and of automatic train control; and says that the density of traffic on this section of the road, 15 through trains daily, with a larger number in the winter, warrants the installation of a block signal system.

Central Vermont, Sharon, Vt., June 20.—Collision between northbound passenger train No. 21 and a southbound freight, the freight being on the time of the passenger train because the three men on its locomotive, waiting on a side track, had all fallen asleep; one employee killed, seven passengers and six trainmen injured. This collision was reported in the *Railway Age* of August 9, page 236.

Gulf, Colorado & Santa Fe, Big Creek, Tex., June 21.—A southbound work train, consisting of a locomotive, moving backward, hauling two cars and a caboose, was derailed on a straight and level track, while moving at excessive speed, (35 miles an hour or faster), compared with the prescribed limit of 25 miles an hour for all freight trains. This estimate of the speed is made by the inspector after listening to estimates by the railroad men varying from 12 to 35 miles an hour. The locomotive and one car were overturned and the engineman was killed. Two other employees were injured. The inspector's belief is that the primary cause was excessive speed while running backward. An auxiliary fuel oil tank, 26 in. deep, had been placed above the water cistern on the tender and this auxiliary tank had no swash plates. At the time of the derailment there was only about six inches of oil in the tank, and the water in the cistern was low; a combined condition which no doubt permitted excessive oscillation of the tender. The inspector finds that speed-limit orders are not observed or enforced, which defect should be promptly remedied.

Chicago & Eastern Illinois, Otter Creek Junction, Ind., June 23.—A southbound freight train consisting of a locomotive and 40 cars was derailed at a frog, overturning the locomotive and wrecking several cars; the engineman was killed and three other employees were injured. The cause of this derailment was not ascertained, but possibly was due to wide gage coupled with excessive speed on a 4 deg. curve.

Hocking Valley, Linworth, Ohio, June 24.—Rear collision of freight trains in a dense fog, causing the death of a brakeman and injury to another employee. The trains were running under permissive block signals, and the cause of the collision was failure to keep speed under control. This collision was reported in the *Railway Age* of September 13, page 452.

Unadilla Valley, Bridgewater, N. Y., June 25.—Collision between a southbound passenger and a northbound freight due to the men in charge of the passenger train forgetting the regular meeting point; one passenger and one employee killed, three passengers and one employee injured. This collision was reported in the *Railway Age* of August 9, page 251.

Atlantic Coast Line, Lakeland, Fla., June 27.—Collision between locomotive No. 628 moving north and yard engine 155 southbound, moving backward, badly damaging the northbound engine but releasing the pressure from its main air reservoir and thus permitting the independent air brake

to loosen; and, the reverse lever being in reverse position, the engine started backward and ran off the end of a derail track about 500 ft. distant. The engineman of this engine was killed and one other employee was injured. The collision occurred within yard limits where by rule all movements are required to be under control. Both crews claimed to have stopped before the collision, but the inspector finds that the yard engine was moving (very slowly) and the other one moving faster than the maximum speed allowable. It appears that engine No. 628 was moving up grade where it is customary to make a run for the hill; but as the engine had no cars there was no excuse for running otherwise than with speed under control. The inspector also censures the operation of the yard train with only a small portion of its air brakes in operation, though the movement extended for a considerable distance over the main track.

Chicago, B. & Q., Buda, Ill., June 30.—Rear collision of passenger trains; 8 persons killed, 16 injured; engineman ran in disregard of signals and flagman had not properly protected the standing train. This collision was reported in the *Railway Age* of September 6, page 426.



DON'T
walk near
edge of platform
SAFETY FIRST

One of a Series of Safety Posters Prepared by the London & North Eastern Railway, Size 25 in. by 40 in., Printed in Two Colors

General News Department

The joint passenger station of the Missouri Pacific and the St. Louis-San Francisco at Hoxie, Ark., was damaged by fire on October 9, with loss estimated at \$25,000.

The Interstate Commerce Commission, Division I, has set aside its order of September 10 denying the petition of the Chicago, St. Paul, Minneapolis & Omaha to be relieved from the commission's two orders requiring the installation of automatic train control.

The Interstate Commerce Commission has issued a modification of its automatic train control order to permit the Chicago, Burlington & Quincy to make its installation between Creston and Pacific Junction, Ia., instead of between the points specified in the order.

Howard Elliott, chairman of the Northern Pacific, recently was elected president of the Board of Overseers of Harvard University. Mr. Elliott is a Harvard alumnus and has served seventeen years on the Board of Overseers, during which time he has taken a particular interest in the development of the Graduate School of Business Administration, the curriculum of which includes courses on transportation.

Telegraphers of eight railroads appeared before the Railroad Labor Board on October 15 asking increases in wages of 6 to 9 cents an hour and changes in certain working rules. Officers of the Order of Railroad Telegraphers represented the employees. The railways involved were the Atchison, Topeka & Santa Fe, the Gulf, Colorado & Santa Fe, the Denver & Rio Grande Western, the Rio Grande Southern, the Cincinnati, Indianapolis & Western, the Great Northern, the Central of New Jersey and the Southern Pacific, Pacific system.

Weymouth Kirkland, special counsel for the United States Railroad Labor Board, opened arguments before Judge James H. Wilkerson of the Federal District Court at Chicago, on October 21, on the petition of the Labor Board for a ruling from the court ordering employee witnesses in the wage controversy between the western railways and their enginemen to appear and testify in the dispute. The petition was filed with the court on September 29 and was followed by a motion of Donald R. Richberg, counsel for the brotherhoods, that the petition be dismissed. The present litigation, which is expected to devolve into a complete test of the powers of the Railroad Labor Board under the Transportation Act, is expected to continue for some time.

Carl R. Gray on Railroad as a Career

A monthly talk by Carl R. Gray, president of the Union Pacific, entitled, "A Railroad Career for the American Boy," and published in the October issue of the Union Pacific Magazine, points out the advantages of railroad employment and invites men along the lines of the Union Pacific to let the railroad assist them in qualifying for vacancies as they occur. Following are some quotations from the talk:

"The railroad business is a business of action and movement. What boy is not fascinated by the monster engines, the handsome passenger trains, the long, sinuous freight trains? Railroadng is nothing if not romantic.

"Railroading is more than a business. It is a profession. It is not something to be picked up today and laid down tomorrow to tide men over between jobs. It is a life work and men must specialize in it until they reach a high degree of proficiency.

"The discipline is rigid. During the war, railroad men made enviable reputations for themselves, because they were accustomed to obey orders and to work with other people. They were self-reliant, resourceful and progressive.

"The railroad business produces self-made men. Nearly one-half of the officers of the United States railroads entered the busi-

ness before their eighteenth year. Practically all of the executives started at the bottom. The field is still open for the right kind of men. Fascination and romance are there; opportunity is there—opportunity for advancement and for service to one's fellow-men."

Inspection of Frisco Train Control

The train control installation of the St. Louis-San Francisco on 20 miles of single track between Nichols Junction, Mo., and Logan was inspected by representatives of the Interstate Commerce Commission starting October 15. The installation consists of the Intermittent Inductive Train Control System of the National Safety Appliance Company, which was superimposed on the existing automatic signaling. Fourteen passenger and six freight locomotives were equipped with the engine apparatus. On Wednesday, October 15, the engine apparatus was inspected at the terminals and on October 16 an inspection was made of the signals and wayside equipment. Further inspections consisted of riding locomotives in regular service. Thomas B. Smith, engineer, and C. W. Jones, engineer examiner, both of the Bureau of Signals and Train Control Devices, represented the Interstate Commerce Commission on this inspection.

The Santa Fe's Reserve Corps, U. S. A.

Under the plan of the United States War Department to form a number of railroad battalions as part of the organized reserved corps of the army, the 612th Engineer Battalion has been allocated to the Atchison, Topeka & Santa Fe, and the personnel will be drawn from employees on lines between Chicago and Denver, Colo., Purcell, Okla., and Waynoka, Okla. The battalion consists of four parts, the first being the battalion headquarters and headquarters platoon; the second, a maintenance of way company, or company A; the third, a maintenance of equipment company, or company B; and the fourth, an operating company, or company C. Men have been selected for commissioned officers and an effort is being made to secure men for non-commissioned officers and privates to fill these companies. Enlistment in the organization does not obligate a man in such a manner as to interfere with his business or vocation in normal times. This battalion will function only in times of war with a major power and cannot be called into service for local disturbances such as riots or strikes.

Midland Valley Protests Against Bus Competition

The Midland Valley, through A. W. Lefebvre, vice-president, Muskogee, Okla., has addressed a communication to all employees, commercial clubs, railroad incorporation commissions and others, calling attention to the fact that buses operated on highways partly paid for through the railroad's taxes are so reducing its passenger and freight traffic that extensive reductions in service are contemplated. An idea of the seriousness of the situation is shown by the fact that from Ft. Smith to 11 stations there was a reduction in l. c. l. freight business of 68 per cent and a reduction in passenger travel of 58 per cent; from Muskogee to 12 stations, a reduction in l. c. l. freight business of 68 per cent and a reduction in passenger business of 76 per cent; from Tulsa to 11 stations a reduction in l. c. l. freight business of 83 per cent and a reduction in passenger business of 71 per cent; and from Pawhuska to 10 stations a reduction in l. c. l. freight business of 57 per cent and a reduction in passenger travel of 80 per cent. Concluding the statement of the road's predicament and of the measures which may be necessary, the circular said, "The cutting off of these trains means, of course, reducing the number of employees. It seems to us that the interests of the employees, the various communities served and the public generally requires serious consideration, and that the bus lines, trusts and other competitors should be required to have equal facilities with the railroads to

protect the traveling and shipping public, the same as the railroad does, and to stand their full share of the taxes as is required of the railroad.

Trial by Jury in Contempt Cases

Arising Out of Labor Injunctions

The United States Supreme Court, in a decision rendered on October 20, upheld the provision of the Clayton law which provides for a trial by jury in contempt cases arising from violations of court injunctions in connection with labor disputes. In this it reversed the seventh circuit court of appeals which had affirmed a decision of the United States court for the western district of Wisconsin in the case of striking shop employees of the Chicago, St. Paul, Minneapolis & Omaha, who had been sentenced for contempt for violation of an injunction issued by the court by conspiring to interfere with interstate commerce. The lower court had held that while on strike the men were not "employees" within the meaning of the law. The Supreme Court, in the opinion by Justice Sutherland, held that they were "employees" within the meaning of the law and that it was not necessary for this purpose that the old status of employer and employee should exist at the time the alleged contempt was committed to make the jury trial provision of the law effective.

Fuel Consumption on the M. P.

Fuel consumption on the Missouri Pacific during July was .9 of a gallon per car mile in passenger service and 9.6 gal. per thousand gross ton miles in freight service. A record has been kept of each district in each class of service showing the gallons consumed per passenger car mile and per thousand gross ton mile including all the fuel used in through and local passenger service, through and local freight mixed trains, traveling switch and light engines running for the benefit of freight and consumption at all terminals. The St. Louis district coal burning engine in passenger car service averaged 12.6 pounds per passenger car mile equivalent to one gallon of oil per car mile. Coal burning engines in freight service average 96 pounds per thousand gross ton mile equivalent to 7.6 gal. of oil. In passenger service the McAlester district ranked first among the districts with .8 gal. per car mile and 8.7 cars per train. In the freight service the McAlester district also ranked first with 7.7 gallons per thousand gross ton mile and 2,276 average tons per train. In yard service the North Texas district ranked first, having used 9.4 gal. per engine mile. Among the unusual economical consumptions during August an engine on an excursion from Waco, Tex., to Galveston with 12 cars consumed 2,025 gal. of oil in making 3,456 passenger car miles or .58 of a gal. per car mile. Another engine in June burned 7,509 gallons of oil, making 9,124 car miles or .8 of a gal. per car mile. In July the same fireman used 5,813 gal. making 6,751 car miles or .8 of a gallon per car mile and in yard service in August he used 8.3 gal. per engine mile. On August 23 a crew handled 1,802 tons from Smithville, Tex., to New Ulm, 3,408 tons from New Ulm to Houston, a total of 70 miles or 319,560 gross ton miles on 1,256 gal. of oil or four gallons per one thousand gross ton mile. The run was made in 7 hours and 35 minutes, taking water twice, 16 in. of water being in the tank on arrival at Houston.

Grade Crossing Problem Discussed in Indiana

The Public Service Commission of Indiana held a conference on October 14, at which ways and means of handling problems presented by railroad grade crossings were discussed. The commission expressed a desire of having a bill passed by the next legislature removing the control of railroad crossings from cities and counties and placing it in the hands of the commission. The idea met with strong opposition from some towns on the ground that it was not considered reasonable that men from the southern part of the state are more capable of handling the affairs of the cities in the northern part than citizens of that section themselves. During the meeting it was suggested that one of the members of the Public Service Commission be designated as a safety commissioner and the general work of handling safety problems be put into his hands, all action to be taken only with the approval of the entire commission. This would not create a new commission nor a new salary. It was also suggested that all who drive motor cars be required to pass examinations to show their mental and

physical fitness. Among other suggestions were, a requirement that motorists stop at all grade crossings before proceeding across the tracks or that they stop at selected grade crossings; the separation of many grade crossings; the elimination of others by re-routing highways and the preventing of new highways crossing tracks at the same grade; the prompt and thorough removal of advertising sign boards and other physical obstructions of the view at grade crossings; a requirement that all parties in an accident, as well as insurance companies involved, submit prompt reports of all accidents to designated authorities; the frequent adjustment of automobile brakes; a more extensive system of grade crossing warning signals, the cost to be borne half by the railroads and half by the governmental unit; the use of civic organizations, churches, newspapers and schools in a campaign to educate the public in safety matters; the holding of all offenders in traffic accidents liable for civil damages; discontinuance of leniency, such as suspension of sentences in the handling of traffic violations; creation of a committee to study the situation and submit recommendations; and more rigorous enforcement of the present laws, as well as the extension of authority to state police in the handling of traffic.

P. R. R. to Build New Terminal at Philadelphia

The Pennsylvania System is now developing plans for the construction of a new passenger terminal to be located in West Philadelphia and to succeed its present Broad street station. The detailed plans for this work have not been completed as yet but the general scope of the project has recently been made public through a talk made by W. W. Atterbury, vice-president in charge of operation, before a luncheon attended by business men of Philadelphia brought together by the chamber of commerce of that city. It is proposed to erect a new station on the west bank of the Schuylkill river between Market and Arch streets in which there will be two track levels. The lower level will be for through passenger tracks and will have about 18 tracks with 1,500 ft. platforms. The upper level will accommodate 8 suburban tracks, baggage facilities, waiting rooms, etc., the arrangement being such that the suburban tracks cross at right angles. The track layout contemplates a system of loops by means of which it will be possible to operate through trains in every direction, into and out of the station without reversing direction or changing engines.

Broad street station, with the exception of the office portion which is to be retained and, in time, probably reconstructed, will be completely torn down as will also the elevated approaches commonly referred to as Philadelphia's "Chinese Wall." In place of this, an underground station will be constructed slightly to the north as a central terminal for suburban trains. It is planned to bring the suburban trains into this station by means of a new bridge across the river, in turn, leading to a subway of four or more tracks which will be located under Filbert street. This arrangement, with the exception of a short approach from the bridge to the subway, places all of the facilities underground and eliminates entirely the operation by the Pennsylvania of steam locomotives into the center of the city. In order that this can be done, it will be necessary to complete the electrification of the passenger lines throughout the Philadelphia suburban zone. This will cover the territory as far south as Wilmington, the Octoraro branch through Media, Wawa and West Chester and eventually portions of the New York and Schuylkill divisions. It is also considered that ultimately it may be necessary to electrify completely to New York, Baltimore and Washington.

The underground station will be connected by means of pedestrian subways to the various transit facilities now in existence and which the city is planning to build in this vicinity, and also to the adjoining business, shopping, and theatre districts. Concurrently with these improvements, the general project calls for the construction of a new central boulevard extending from the existing parkway at the city hall to the river front of the new station in West Philadelphia. This boulevard will lie along the line of Filbert street and will be 80 ft. wide and free from car tracks. It is felt that a marked improvement will result in the central section of the city as a result of the removal of the old station and approaches as this will make available about 20 acres for future commercial development. The general scheme of the project was worked out by the railroad and the city authorities, the latter being particularly interested because of the broad plan of civic development which has been under way for years.

Traffic News

The Northwest Regional Advisory Board will hold its ninth regular meeting on October 21 in the municipal auditorium at Aberdeen, S. Dak.

To handle football fans attending the Illinois-Michigan football game at Champaign, Ill., on October 18, the Illinois Central operated 27 trains from Chicago-Champaign. Of the 27 a total of 22 carried 9,500 revenue passengers. There were seven all-Pullman trains, having two diners each. In addition there were eight coach specials with diners, four parlor and dining car specials and three parlor, private and dining car trains for organized parties. Double tracks were used to handle the trains.

Through service between Chicago and Gulfport, Miss., will be inaugurated by the Illinois Central and the Gulf & Ship Island Railroad on December 1, to replace the present local service on the Illinois Central which leaves Chicago at 9 a. m. The through sleeper between Chicago and Gulfport will be handled between Chicago and Jackson, Miss., on the Panama Limited of the Illinois Central and by the Gulf & Ship Island from the latter point to Gulfport on a new passenger train which it will inaugurate. In addition to the through service from Chicago, a through sleeper between Memphis, Tenn., and Gulfport will be put into service, the sleeper being handled out of Memphis by the Illinois Central, leaving daily at 11:55 p. m. and by the Gulf & Ship Island from Jackson to Gulfport along with the through Chicago sleeper. The through sleeper to Gulfport will reach that point at 12:15 p. m. the day after it leaves Chicago. Returning it will leave Gulfport at 10:45 a. m. daily, arriving at Chicago at 11:30 the next morning.

Orient Divisions Case

Briefs have been filed with the Interstate Commerce Commission in the case in which the Kansas City, Mexico & Orient is asking the commission for an order requiring its connections to allow it larger divisions of through rates. The Orient brief says the road must have additional revenue if it is to continue to operate and that the only possible solutions of its problem are abandonment, consolidation or refinancing. The first of these, it is contended, cannot be considered because of the communities which the road serves, and the third is said to be impracticable. The natural solution, according to the attorneys, is for some of the connecting lines to take over and operate the property either by complete merger or through some operating agreement. Five connecting roads, the Atchison, Topeka & Santa Fe; the Missouri Pacific; the Chicago, Rock Island & Pacific; the St. Louis-San Francisco, and the Missouri-Kansas-Texas, oppose the application, saying that the present divisions leave them less than the cost of performing the service.

Transcontinental Rate Case Argued

Oral argument was heard by the Interstate Commerce Commission at Washington on October 15 and 16 on the application of the transcontinental carriers for fourth section permission to make rates on 41 commodities from points west of the Indiana state line to Pacific coast points lower than the rates to intermediate points. A proposed report by the examiner had recommended the denial of the application. H. A. Scandrett of the Union Pacific, who made the principal argument for the railroads, said that the examiner's report showed that the carriers had met all the usual tests prescribed by the commission for determining the reasonableness of the reduced rates proposed and that the grounds on which he had recommended denial were not plain. Whereas in former cases of this kind there had been much discussion of "potential" competition via the Panama Canal, Mr. Scandrett showed that this time the competition is very real and that whereas at one time the railroads carried 90 per cent of the westbound business the ships now carry four times as much as the railroads. He said the railroads might make a profit of \$15,000,000 on the 150,000,000 tons they would take if they got half of the business. Representatives of Chicago and the Pacific coast cities argued in support of the application while the representatives of eastern cities and the western intermountain territory argued against it.

Commission and Court News

State Commissions

The New York State Public Service Commission has denied the application of the Delaware, Lackawanna & Western for permission to discontinue the operation of its train No. 812 between Utica and Binghamton, which leaves Utica at 10:30 p. m. and runs to Binghamton in three hours. Evidence showed that from September, 1923, to August, 1924, the total revenue of the train was \$29,045; cost of operation \$33,688; net loss \$4,643; but the commission held that to take the train off would deprive a number of persons of a service to which they are reasonably entitled. The service is of relatively long standing and one to which the community has become accustomed. Commercial travelers objected, it is said, to discontinuance of this train.

Court News

Railroad Not Liable for Engineer's Error of Judgment

The Kansas Supreme Court holds that a railroad was not liable for injury to a fireman who was induced to jump from the engine by the engineer's exclamation to jump caused by an erroneous judgment as to danger from collision with another engine.—*Gentry v. Davis* (Kan.) 222 Pac. 769.

Proof of Negligence in Failure to Unload Cattle

The Wyoming Supreme Court holds that the railroad has the burden of proving that it was not negligent in failing to unload cattle for the 36 hours permitted by the contract of shipment; and where there was evidence that the yards had first to be cleared of cars, the question of such negligence was for the jury.—*Worland v. Davis* (Wyo.) 221 Pac. 227.

Contributory Negligence at Crossing

The Wisconsin Supreme Court holds that a truck driver, familiar with a crossing, who drove upon it without reducing his speed and was struck by a train, where his view was unobstructed from a distance of 18 feet from the main track for a distance of 75 feet, and for 1,500 feet when between 10 and 12 feet from the track, was contributorily negligent as a matter of law.—*Sweed v. Chicago & N. W.* (Wis.) 197 N. W. 805.

Time for Bringing Action for Nondelivery of Goods

Goods were delivered short to the consignee on August 21, 1917. Action was begun September 29, 1919, two years and 40 days after the short delivery. The Circuit Court of Appeals, Second Circuit, holds that a reasonable time for delivery of the goods expired more than two years and one day prior to the institution of action barring action under a bill of lading and that the question of reasonable time was, under the circumstances, for the court and not for the jury.—*Lazarus v. N. Y. C.*, 299 Fed. 599.

Federal Employer's Liability Act

The Arizona Supreme Court holds that an employee engaged in unloading cross-ties from a flat car, to be afterwards, at indefinite times or places, placed on tracks used in interstate commerce, was not within the act.—*Arizona Eastern v. Head* (Ariz.) 222 Pac. 1041.

The New York Court of Appeals holds that a railroad employee, killed by electric shock when oiling an electric crane in the railroad shop, the crane being partly used to repair locomotives and cars engaged in interstate commerce, was not within the act.—*Tepper v. N. Y., N. H. & H.*, 238 N. Y. 423, 144 N. E. 668.

The Colorado Supreme Court holds that a section foreman injured when alighting from a moving train he had, under directions, boarded to throw off coal to cook the food of his crew who were engaged in interstate commerce, was within the act.—*Freeman v. Grove* (Colo.) 227 Pac. 550.

The Idaho Supreme Court holds that a fireman on a train engaged in interstate commerce who had left the engine when it

was detached and taking water at a water tank, made some private purchases, and was injured when trying to board the engine, was within the act.—*Rogers v. Davis* (Idaho) 228 Pac. 330.

Liability for Destruction of Hay in Warehouse

A railway company leased a portion of its right of way to be used for a barn, with a stipulation that the railroad should not be liable for damages by fire. In an action for damages for the destruction by fire of hay stored in the barn the Oklahoma Supreme Court holds that if at the time of the fire the building was being rented by the plaintiff from the original lessee for the purpose of storing his hay, and the barn was destroyed by the defendant's negligence, the verdict should be for the plaintiff.—*K. C. S. v. Keffer* (Okla.) 220 Pac. 361.

Burden on Plaintiff to Show

Negligence Causing Loss of Stolen Goods

Where a shipment of grapes remained in the railroad's custody in a car in its yards, as a warehouseman, the presumption (arising from the fact that the carrier could not produce the grapes) that the railroad company was negligent was removed by proof that the grapes were stolen, the burden then devolving on the plaintiff in an action for their loss to show that the railroad was negligent and that the loss resulted therefrom.—*Balice v. Erie*, 208 N. Y. App. Div. 427, 203 N. Y. Supp. 636.

I. C. C. Has Exclusive Control Over Issue of Securities

The Wisconsin Supreme Court holds that the payment under protest by a railroad engaged in interstate commerce to the State Railroad Commission of fees provided for by statutes declaring issues of securities void unless authorized by the Commission, and imposing heavy penalties for noncompliance, was not voluntary, but under duress; that it was the intent and meaning of section 20a of the Transportation Act that Congress should assume exclusive control over such securities; and that section 20a is constitutional.—*Minneapolis, St. P. & S. S. M. v. Railroad Commission* (Wis.) 197 N. W. 352.

Demurrage When Consignee's Spur Track Occupied

Where a carrier learned that a consignee's regular spur track was occupied by loaded cars designed to serve as ballast during a flood, and notified the consignee of inability to deliver shipments, the Wisconsin Supreme Court holds that the fact that the carrier did not offer to place the cars upon other portions of the consignee's spur tracks did not prevent demurrage commencing. Under the carrier's rules the notice given was a constructive placement of the cars. Under these rules the carrier could have delivered the cars at other points in the consignee's yard, instead of giving notice, but the option was with the carrier, not with the consignee.—*Chicago, St. P., M. & O. v. New Dells Lumber Co.* (Wis.) 197 N. W. 713.

United States Supreme Court

St. Louis Terminal Transfer Rates

After litigation in the federal courts beginning in November, 1905, with a complaint by the United States against the Terminal Railroad Association of St. Louis and its owners, for dissolution of the association as a combination in violation of the Sherman Act, the federal district court for Eastern Missouri, in accordance with the directions of the Supreme Court of the United States in *U. S. v. St. L. T.*, 236 U. S. 194, issued a decree declaring the association a violation of the Anti-Trust Act when operated as a transportation company, but not when transacting a terminal business. The decree provided for the admission of any railroad to joint ownership of the terminal properties, and abolished the arbitrary charge for traffic originating within 100 miles.

Certain of the defendant proprietary railroad companies, called for convenience the west side lines, are M. K. & T.; St. Louis-San Francisco; Mo. Pac. and Chicago; R. I. & Pac. Certain others, called the east side lines, are B. & O. S. W.; Chicago & Alton; C. C. C. & St. L.; Illinois Central; Louisville & Nashville; Southern; Pittsburgh, C. C. & St. Louis; St. Louis S. W.; C. B. & Q. and the Wabash. The C. B. & Q. has a line entering

St. Louis from the east and one from the west, as does the Wabash.

In August, 1920, the west side lines sought to have the Terminal Association and the east side lines adjudged in contempt of court for violating the decree. A decree was entered declaring the defendants in contempt of court for violating the original decree (a) by not acting in good faith as impartial agents of the lines; (b) by making the west side lines pay transfer charges; (c) because the east side lines did not pay transfer charges on west bound freight and (d) by issuing bills of lading and passenger tickets to distant points beyond the association's lines; and requiring repayment of the transfer charges paid by the west side lines on west bound freight of the east side lines. The defendants appealed under the Expedition Act to the Supreme Court of the United States.

The controversy was one between the west side lines and the east side lines as to which shall bear transfer charges on west bound through freight. This depended upon the construction of the original decree. The Supreme Court holds that the original decree does not require the east side lines to bear them. The suit was brought by the United States to prevent restraint of trade. It did not relate to the transfer charges or division of joint rates. And no controversy between the east and west side lines was determined by the decree.

The practice of "breaking" the rates on west bound through freight at the east bank of the Mississippi in St. Louis has prevailed since 1877. It has also been the practice at this crossing to "break" the joint rates on east bound through freight at the same place.

The court holds that the making of rates is a legislative and not a judicial function and the division of joint rates is also legislative in character. The Interstate Commerce Commission is authorized to establish through rates and to fix divisions of such rates. As a general rule, the question of reasonableness of rates or of divisions will not be considered by the courts before application has been made to the commission. The Terminal Association and its subsidiaries are common carriers by railroad, and subject to regulation by the commission. The original decree did not prescribe charges or fix divisions of joint rates, therefore contempt proceedings would not lie to determine whether the west side lines have paid more than their fair share. The refusal or failure of the east side lines to pay the charges in controversy is held not to be contempt of court. The issuing of bills of lading, etc., is not expressly forbidden by the original decree; but assuming that this is not terminal business, it was not shown that any injury has resulted to the west side lines therefrom, or that they were entitled to any relief. The decree was therefore reversed.—*Terminal R. R. Ass'n v. U. S.* et al. Decided October 13, 1924. Opinion by U. S. Justice Butler.



P. & A.

Labor Leaders Who Called on the President on Labor Day—
At Mrs. Coolidge's Right Is John Draney, D. L. & W.
Engineman and President of the Lackawanna
Veterans' Association

Foreign Railway News

New Line Proposed in Zululand

A new railway line, 88 miles in length, is proposed for opening up cotton lands in Zululand, South Africa, according to Modern Transport (London). The line will cost approximately \$420,000 and will be partly paid for by the sale of lands in the vicinity held by the British crown.

Germany Claims World's Fastest Freight Train

The distinction of having the world's fastest freight train is claimed by the German railways. The train is composed of twenty cars of a new type, each of fifty tons' capacity, and although its weight is practically double that of a standard express train it can, from full speed of about 100 kilometers (approximately 62½ miles) per hour, be stopped at a braking distance of only about 3,300 ft. This performance is rendered possible by the design of the cars and locomotive, by the use of specially designed high-speed pneumatic brakes, and, finally, by the use of automatic couplers.

New Railway in French Equatorial Africa

It has been decided to continue without interruption the construction of the railway in French Equatorial Africa, which is to connect Brazzaville, on the Congo, at Stanley Pool, with the Atlantic coast, according to the Times (London). The line, as planned, will be about 300 miles long, and the ocean terminus will be at Pointe Noire, where a port will have to be constructed.

For thirty years the building of this railway has been urged, and the project has been alternately favored and neglected. It was not until 1921 that construction was begun.

In that year about 12 miles of track from the Brazzaville end were practically completed. In 1922 an extension of 20 miles was authorized, as well as the beginning of work on 40 miles in the Minduli region and on 25 miles starting from Pointe Noire. M. Antonetti, the present Governor of French Equatorial Africa, who has left Paris to return to his duties, places great importance on the building of the line, which he believes should be completed in from five to seven years. Pointe Noire, he prophesied, would become one of the greatest of Atlantic ports. The railway is expected to develop the copper mining industry in the Minduli district, the oil seed trade, the trade in wood from the forests of Mayombe, and production in the Middle Congo generally.

Objections to the scheme are, however, not lacking. Perhaps the most serious practical objection is that the new railway would enter into competition, on very unequal terms, with the Belgian Congo Railway, which runs from Kinshasa, also on Stanley Pool, to Matadi, in the estuary of the Congo. Much of the French Equatorial African trade is already tapped by this line, and the Belgian authorities announced last year that they proposed to increase its carrying capacity. But other serious arguments were raised against the French scheme. Attention was called to the disproportion between the size of the enterprise and the small population of the country—estimated at 3,000,000. The selection of Pointe Noire as the ocean terminus has, moreover, always been a subject of controversy, and engineers have expressed doubts of the practicability of building the line as planned in the Mayombe section. Finally, the cost of the whole scheme has been estimated at about £3,700,000, and it is urged that it would be difficult to get a return on the money from this undeveloped colony. The consideration which has apparently weighed most with the government is that, whatever the cost of the scheme may be, without a railway the territory cannot be developed.

It has been decided that part of the material received in the form of deliveries in kind from Germany will be used in the building of the railway.

THE OHIO VALLEY SHIPPERS' REGIONAL ADVISORY BOARD will hold its annual meeting at the Brown Hotel, Louisville, Ky., on Tuesday, November 25. The docket will be distributed ten days prior to the meeting.

Equipment and Supplies

Locomotives

THE WARASH is preparing specifications for the purchase of 50 locomotives.

THE GREAT NORTHERN is inquiring for 3 simple Mallet type locomotives.

CLARENDON & PITTSFORD has ordered one, 0-6-0 switching type locomotive from the American Locomotive Company.

THE MISSOURI PACIFIC is expected to increase its order of 50 locomotives, which was reported in the *Railway Age* of September 13, to 80 locomotives.

THE MOBILE & OHIO has ordered 4 heavy Mikado type locomotives from the Lima Locomotive Works and 1 Pacific type locomotive from the Baldwin Locomotive Works.

Additional Three-Cylinder

Locomotives for the Lehigh Valley

The Lehigh Valley has ordered from the American Locomotive Company 5 more of the new Lehigh Valley type of three-cylinder locomotives. Recently, the American Locomotive Company built one of these engines for experimental work on the Lehigh Valley and the results were so satisfactory that the railroad company has decided to increase its motive power of this type. The three-cylinder locomotive is regarded as marking an important departure in the mechanical side of railroading. The one now in service on the Lehigh Valley, the 5000, has undergone a series of severe tests and has attracted critical examination from many railroad experts. The locomotive has shown that it does the work ordinarily required of two heavy Pacific type two-cylinder locomotives and has demonstrated ability both in freight and passenger service.

Freight Cars

THE LONG ISLAND is inquiring for 15 caboose cars.

THE GREAT NORTHERN is inquiring for 27 refrigerator car underframes.

THE SOUTH INDIAN RAILWAY COMPANY is inquiring through the car builders for 20 tank cars of 30 tons' capacity.

THE STANDARD OIL COMPANY OF BRAZIL is inquiring through the car builders for 10 tank cars of 50 tons' capacity.

THE GENERAL SUGAR COMPANY, Havana, Cuba, has ordered 12 cane cars of 30 tons' capacity, from the Magor Car Corporation.

THE NORFOLK & WESTERN, reported in the *Railway Age* of October 18 as contemplating the purchase of 3,000 gondola cars, is now inquiring for 3,000 all steel gondola cars, of 57½ tons' capacity.

THE CHICAGO, BURLINGTON & QUINCY, reported in the *Railway Age* of October 18 as expecting to enter the market for repairs to 1,000 freight cars, is now asking for prices on the repair of 1,000 gondola cars of 50 tons' capacity.

THE CHICAGO NORTH WESTERN, reported in the *Railway Age* of October 18 as having authorized the purchase of from 3,200 to 3,500 freight cars is now inquiring for 1,000 box cars, 1,000 automobile cars, 500 stock cars, 500 flat cars and 200 refrigerator cars.

Passenger Cars

THE NORTHERN PACIFIC is inquiring for 10 coaches, 5 baggage cars and 5 combination baggage and mail cars.

THE DELAWARE, LACKAWANNA & WESTERN, according to reports, contemplates buying about 30 express cars. This item has not as yet been confirmed.

THE LONG ISLAND, reported in the *Railway Age* of October 4 as contemplating the purchase of 40 steel motor passenger cars for electric service, has ordered this equipment from the American Car & Foundry Company.

THE INTERBOROUGH RAPID TRANSIT, reported in the *Railway Age* of August 16 as inquiring through the Rapid Transit Construction Company for 150 subway motor cars, has ordered this equipment from the American Car & Foundry Co.

Iron and Steel

THE ERIE is inquiring for 8,000 tons of rail.

THE KANSAS CITY SOUTHERN is inquiring for 2,000 tons of rails.

THE MISSOURI PACIFIC is expected to enter the market soon for a large tonnage of rails.

THE NEW YORK CENTRAL is inquiring for 1,000 tons of structural steel for grade crossing work.

THE WARASH has divided an order for 15,000 tons of rail among the Illinois Steel Company, the Inland Steel Company and the Bethlehem Steel Corporation.

THE UNION PACIFIC has distributed an order for 55,000 tons of rail, 1,500 tons of spikes and bolts and 5,000 tons of tie plates, among the Colorado Fuel & Iron Co., the Illinois Steel Company and the Inland Steel Company.

THE LEHIGH VALLEY, reported in the *Railway Age* of October 4 as having received bids on 3,200 tons of steel for bridges, has distributed the order for this tonnage between the Bethlehem Steel Corporation and the McClintic-Marshall Company.

New York Central Rail Order

The New York Central, reported in the *Railway Age* of October 18 as having placed tentative orders for 184,650 tons of rail, has placed orders for 155,000 tons and has an option on 29,650 tons additional as follows:

	Ordered	On Option	Total
Bethlehem Steel Company	67,350	12,850	80,200
Carnegie Steel Company	15,200	1,800	17,000
Illinois Steel Company	58,600	12,000	70,600
Inland Steel Company	13,850	3,000	16,850
Totals	155,000	29,650	184,650

Machinery and Tools

THE MISSOURI PACIFIC has placed an order for a 100-ton bushing press.

THE PENNSYLVANIA RAILROAD has placed an order for a 5-ft. radial drill.

THE KILBY CAR & FOUNDRY COMPANY has placed an order for an axle lathe.

THE CHESAPEAKE & OHIO has placed an order for a 90-in. wheel quartering machine.

THE CANADIAN NATIONAL has placed an order for a 40-ton, 75-ft. span gantry crane.

THE LONG BELL LUMBER COMPANY has placed an order for a 69-in. driving wheel lathe.

THE PULLMAN CAR & MANUFACTURING CORPORATION has placed an order for 4, 48-in. car wheel borers.

THE MATHER STOCK CAR COMPANY is inquiring for a used or new table shear for cutting galvanized sheets.

THE SOUTHERN RAILWAY has placed orders for machine tools to include a car wheel lathe, an axle lathe and three steam hammers of 600 lb., 1,500 lb., and 3,400 lb., respectively.

Supply Trade News

The Continental Car Company, Louisville, Ky., has merged with the Kentucky Wagon Manufacturing Company, Louisville, Ky.

The Stafford Roller Bearing Car Truck Corporation, Lawton, Mich., has been purchased by J. S. Stearns, Ludington, Mich.

The Whiting Corporation, Harvey, Ill., has moved its Detroit office from 3000 Grand River avenue to 650 Baltimore avenue west.

The Pullman Car & Manufacturing Corporation has asked bids for the construction of a one-story, 280 by 484 ft., passenger car finishing plant at Pullman, Ill., to cost \$500,000.

The Mid-Continent Tank Car Company, Coffeyville, Kans., will construct a branch plant for building and repairing tank cars on a 22-acre site recently purchased at Shreveport, La.

Waldemar Dyrssen has been appointed chief engineer, furnace equipment department and chief engineer, forge and hammer welding department, of the Blaw-Knox Company, Pittsburgh, Pa.

R. D. Bartlett, assistant to the president of the Ryan Car Company, Chicago, has been promoted to vice-president. Reginald Cooke, general manager, has been promoted to secretary and treasurer.

E. H. Weitzel has been promoted to manager of the Minnequa plant of the Colorado Fuel & Iron Company, Denver, Colo., to succeed F. E. Parks, who will serve that company in a consulting capacity.

The Long Bell Lumber Company, Longview, Wash., has awarded a general contract to C. A. Mitchell, Ryderwood, Wash., for a one-story machine shop, 90 by 156 ft., at its plant in the vicinity of Ryderwood.

C. B. Mitchell, for the past 13 years with the National Lumber & Creosoting Co., Texarkana, Ark., has been appointed district sales manager, with headquarters at 312 Railway Exchange building, Kansas City, Mo.

The plan for the purchase of the Industrial Works, Bay City, Mich., by the McMyler Interstate Company, Cleveland, Ohio, which was described in the *Railway Age* of August 2, was defeated by a vote of the stockholders last week.

A. C. Holden, formerly sales manager of the Household Appliance division of the General Railway Signal Company, Rochester, N. Y., has been appointed resident manager of its Pacific coast territory, with headquarters at room 412, Matson building, 215 Market street, San Francisco, Cal.

The McMyler-Interstate Company, Bedford, Ohio, has acquired the railroad turntable department of the King Bridge Company. Patterns, drawing, sales records and other material and records taken over from the King Bridge Company will be maintained by the McMyler-Interstate Company.

The American Bolt Corporation has secured a site and plans have been approved, for putting up a new warehouse and shop, on the south side of West Forty-seventh street near South Turner avenue, Chicago. The building will be two stories in the front and one story in the rear; it will contain 64,134 sq. ft. of floor space.

L. G. Pritz, vice-president of the Sizer Steel Corporation, Buffalo, N. Y., has been appointed vice-president in charge of all operations of the United Alloy Steel Corporation, Canton, Ohio. In 1909 he entered the employ of the Illinois Steel Company at South Chicago, Ill., where he served as foreman melter, superintendent of electric furnaces, superintendent of special high grade steels, and metallurgical engineer in charge

of the high grade specialty and alloy steel department. In 1917 he entered the employ of the Timken Roller Bearing Company and in 1922 resigned as general superintendent of the steel works in charge of electric furnaces, rolling mills and tube plants in production of bearing steels to become vice-president of the Sizer Steel Corporation, which position he has held until his recent appointment.

The Beaudry Company, Inc., is now occupying its new factory at Revere Beach Parkway, Everett, Mass. The main building, which is of concrete and steel sash construction, is 140 ft. by 70 ft. The center bay has about 30 ft. of head room and is served by an electric traveling crane. The side bays are somewhat lower and have a balcony for lighter machine work and storage, giving a total floor area of about 16,000 ft. The tools are modern and so arranged that the rough materials are taken in at one end and travel progressively through the shop to the other end where the finished machines are assembled, tested, weighed, skidded or boxed, picked up by the crane and placed on a loading platform erected on a level with the freight car door. The Beaudry Company, which was established in 1880, manufactures four types of power hammers in a variety of sizes, also plain or special dies for every forging purpose and for any make or size of hammer.

Paul M. Etters, sales engineer of the National Carbon Company, has resigned to become eastern manager of the **E. A. Lundy Company**, with headquarters at Pittsburgh, Pa. He was born at Bellefonte, Pa., on October 18, 1887, and graduated from Pennsylvania State College with the degree of B. S. in electrical engineering in June, 1909. On July 1 of the same year he entered railway service with the Pennsylvania as a signal apprentice and three years later was appointed an assistant inspector of signals on the lines east of Pittsburgh. On March 15, 1913, he was appointed assistant signal supervisor on the West Jersey & Seashore, with headquarters at Camden, N. J., and four months later was transferred to the Middle division of the Pennsylvania, with headquarters at Altoona, Pa. On June 1, 1918, he resigned to become electrical engineer of the Hercules Powder Company at Wilmington, Del., being assigned to construction work of the government munition plant at Nitro, W. Va., which position he held until June 16, 1920, when he entered the employ of the Electric Storage Battery Company as sales representative. On January 1, 1923, he entered the employ of the National Carbon Company as sales engineer, which position he has held until his recent appointment.

Obituary

Carl H. Peterson, eastern sales manager of the Standard Stoker Company, Inc., died at his home in Chicago on September 27. Mr. Peterson was born in Chicago on November 9, 1872. Prior to his going with the Standard Stoker Company, Inc., he was engineering representative from 1892 to 1904 for the Safety Car Heating & Lighting Company and with the Pressed Steel Car Company in the engineering and sales departments from 1904 to 1905 at Chicago. From 1905 to 1919 he was with the Baldwin Locomotive Works and the Standard Steel Works Company as assistant manager at Chicago, southwestern representative at St. Louis and western representative at Chicago. Mr. Peterson had been engaged since 1919 in consulting work, specializing along sales engineering and production lines, until April, 1923, when he entered the service of the Standard Stoker Co.



C. H. Peterson

Henry R. Towne, chairman of the board of directors of the Yale & Towne Manufacturing Co., Stamford, Conn., whose death on October 15 at his home in New York was noted in

the *Railway Age* of October 18, was born in Philadelphia, Pa., on August 28, 1844. He attended the University of Pennsylvania but left before graduation, receiving, however, the honorary degree of M.A. in 1887. He first served in the drafting room of the Port Richmond Iron Works at Philadelphia. In 1866 he made an extensive tour of the leading engineering establishments in Great Britain, Belgium and France, and took a special course in physics at the Sorbonne, Paris. After returning to the United States he



H. R. Towne

worked for some time in the shops of William Sellers & Co., Philadelphia. In October, 1868, he formed a partnership with Linus Yale, Jr., with Mr. Yale as president, and the Yale Lock Manufacturing Company was established at Stamford, Conn. Mr. Yale died shortly after, and in 1869 Mr. Towne became the president of the company, which at that time had a factory with 30 employees at Stamford and a sales room in New York. Mr. Towne continued as president until March, 1915, when he desired to retire from the duties of that office and was elected chairman of the board. During the earlier years of the company's existence Mr. Towne actively directed both the manufacturing and commercial sides of the business, but as the volume increased he devoted more and more of his time to the latter. The company at first made bank locks and the Yale pin tumbler locks. Later there were added safe deposit locks, mortise locks, Yale time lock, and etc. The company also had an important business in complete post office equipments. A bronze department was added in 1873, and in 1882 it established an art department. The company secured the American rights for the Weston differential pulley block. It was also one of the first in America to build cranes, but the crane business was later sold to the Brown Hoisting Machinery Company, Cleveland, Ohio. The name of the company was changed in 1883 to the Yale & Towne Manufacturing Co. In 1878 the company absorbed the United States Lock Company and the American Lock Company; in 1894 the Branford Lock Works and in 1895 the Blount Manufacturing Company, in each case adding new lines. Mr. Towne was an active member of the American Society of Mechanical Engineers for many years and served as its president in 1888 and 1889. He had also been active in the affairs of the Merchants' Association of New York and had been its president from 1907 to 1913, and he had also served as treasurer of the National Tariff Commission Association.

THE RIO GRANDE EASTERN, a new railroad 13 miles long, extending from Hagen Junction, New Mex., to Hagen, where coal properties are being developed, was opened for service on October 4.

THE INTERSTATE COMMERCE COMMISSION has denied the petition of the American Railway Express Company and the railroads for a reconsideration of its order reducing express class rates in the West and South, and also that of the Southeastern Express Company asking it to set aside the order for a reconstruction of express rates in Zone 2.

THE DENVER UNION TERMINAL RAILWAY has allotted an additional 1,000 sq. ft. of space in the baggage room of the Denver Union Depot for the convenience of the public in mailing parcel post. The new arrangement will allow patrons to conduct their parcel post business without making a trip to the post office which is one mile from the station.

Railway Construction

ATCHISON, TOPEKA & SANTA FE.—This company plans the remodeling and the construction of additions to its passenger station at Emporia, Kan. Plans for the work have been completed but construction will not start until next spring.

CANADIAN NATIONAL.—This company is completing surveys for the proposed extension of the Edmonton, Dunvegan & British Columbia to a point near Prince George, B. C. The proposed extension is to be discussed by the Minister of Railways of Canada and the officers of the Canadian National at a conference to be held at Winnipeg, Man., late this year.

CENTRAL OF NEW JERSEY.—This company has awarded a contract to the Tilt-Hargan Company for the removal and reconstruction of a sand blast house at Elizabethport, N. J., to cost approximately \$22,900. A contract has been awarded to Richards & Gaston for the construction of concrete abutments, wing walls and curb column footings, including excavation and drainage, for a bridge at Loeser avenue, Somerville, N. J.

MISSISSIPPI-ALABAMA CENTRAL.—This company, which was recently organized, has been authorized by the Mississippi Railroad Commission to construct a new railroad from Tremont, Miss., to Sulligent, Ala., a distance of 25 miles. M. D. L. Spearman, Tremont, Miss., is one of the promoters of the project.

MISSOURI-KANSAS-TEXAS.—This company will soon call for bids for the construction of a subway at Walnut street at Nevada, Mo., the cost of which is to be shared jointly with the city of Nevada. This company has awarded a contract to T. H. Johnson for the construction of two reinforced concrete trestles, 207 ft. and 442 ft. long respectively, at St. Paul, Kans., at a cost of \$42,000.

MISSOURI PACIFIC.—This company has awarded a contract to H. O. Hirsch & Company, St. Louis, Mo., for the construction of a 30-ft. addition to its passenger station at Newport, Ark., reported in the *Railway Age* of September 27.

PENNSYLVANIA.—This company has awarded a contract to the Brown-King Construction Company, Philadelphia, for the construction of a bridge at Second street, Philadelphia, to cost approximately \$100,000. The city will share in the expense.

SAN BENITO & RIO GRANDE.—The Interstate Commerce Commission has issued a certificate authorizing the construction of a line from Santa Maria to Sammons, Tex., 30.93 miles.

SOUTHERN PACIFIC.—This company is calling for bids for the construction of nine miles of a partly completed belt line east of Dallas, Tex., reported in the *Railway Age* of June 22. The cost of project, which will include the elimination of all grade crossings, will be approximately \$600,000.

SOUTHERN PACIFIC.—This company plans the immediate construction at Houston, Tex., of a ship and rail terminal to cost \$1,061,000. The plans include a slip 830 ft. long and 225 ft. wide with a concrete water front apron 25 ft. wide. The slip will contain three track bays with four tracks in each bay. A loading transfer shed, 70 ft. by 820 ft., and an unloading transfer shed, 70 ft. by 400 ft., will be constructed. A 60-ft. by 400-ft. warehouse is also planned. An oil-unloading wharf and facilities for handling steel with an 80-car capacity track will be constructed adjacent to the pier. The buildings will have steel frames covered with asbestos-protected metal and will be equipped with electric elevating conveyors.

ST. LOUIS, BROWNSVILLE & MEXICO.—The Interstate Commerce Commission has issued a certificate authorizing the construction of a line from Lyford to Edinburg, Tex., 28 miles.

UNION PACIFIC.—This company has awarded a contract for the construction of a wharf, 1,072 ft. long, with a covered enclosure 903 ft. long, at Portland, Ore., to cost \$370,000. This company

has also awarded a contract for the construction of a steel coal-ing station, with overhead storage capacity of 150 tons, at Valley, Nebr., to cost \$70,000, and will erect with company forces a 200,000-gal. steel water tank at Valley at a cost of \$25,000. A two-story rustic stone and frame pavilion, 130 ft. by 41 ft., and 18 small cabins at Bryce Canyon, Utah, and another two-story pavilion, 92 ft. by 44 ft., with 21 cabins at Zion National Park, Utah, and will be constructed by company forces. Each of these projects will cost \$60,000.

VINITA, BARTLESVILLE & WESTERN.—This company, which was recently organized, plans the construction of a railroad across northern Oklahoma, from Vinita to Nowata, Bartlesville, Pawhuska, Ponca City and Blackwell. C. E. Burlingame, of Bartlesville, Okla., is president of the company.

WENATCHEE SOUTHERN.—The Interstate Commerce Commission has denied the petition of the Great Northern for a reargument of the case in which the commission granted a certificate authorizing this company to construct a line between Wenatchee and Kennewick, Wash.

A NEW ROAD IN FLORIDA.—It has been announced through the daily press that a New York group, including Baron G. Collier and Cornelius Vanderbilt, Jr., is contemplating the construction of a new railroad across the Everglades from Miami, Fla., to Fort Myers.

OFFICERS elected at the twenty-first annual meeting of the American Association of Railway Surgeons at the Hotel LaSalle, Chicago, on October 15, 16 and 17 were, president, D. Y. Roberts, Louisville, Ky.; vice-presidents, M. L. Bishoff, Topeka, Kans.; Frank H. Walke, Shreveport, La.; and W. G. Kemper, Manitowoc, Wis. Those elected to the executive board were J. H. Rishmiller, Minneapolis, Minn., and B. F. Lounsbury, Chicago, Ill.



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Wonder How Long They Can Live Happily Together

Railway Financial News

ATCHISON, TOPEKA & SANTA FE.—Lease.—The Interstate Commerce Commission has authorized this company to acquire control by lease of the property of the Oklahoma Central.

BALTIMORE & OHIO.—Equipment Trusts Authorized.—The Interstate Commerce Commission has authorized an issue of \$9,504,000 of equipment trust certificates, through the National Railway Service Corporation, to be sold at not less than 96½%.

CHICAGO, ROCK ISLAND & PACIFIC.—Valuation Hearing.—The Interstate Commerce Commission has announced a further hearing in this company's valuation case before Examiner Kelley on December 1 at Washington. **Equipment Trust Certificates.**—The Interstate Commerce Commission has authorized an issue of \$3,750,000 of equipment trust certificates to be sold at not less than 98.

GALVESTON, HARRISBURG & SAN ANTONIO.—Bonds.—The Interstate Commerce Commission has authorized this company to issue \$978,000 of Galveston-Victoria division first mortgage 6 per cent bonds to be delivered at par to the Southern Pacific in payment for advances for additions and betterments.

GULF, COLORADO & SANTA FE.—Lease.—The Interstate Commerce Commission has authorized the acquisition by this company of control by lease of that part of the Pecos & Northern Texas extending from Coleman to Sweetwater, Tex., and the acquisition by the Panhandle & Santa Fe by lease of the remainder of the line.

The commission has also authorized this company to acquire control by lease of the Concho, San Saba & Llano Valley, operating about 60 miles of line in Texas.

ILLINOIS CENTRAL.—Stock.—The Interstate Commerce Commission has authorized the issuance of \$14,256,000 of common stock or so much as shall equal 10 per cent of the outstanding common stock, to be sold at par to the existing stockholders.

KANSAS CITY SOUTHERN.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue and sell or pledge \$3,000,000 of refunding and improvement mortgage 5 per cent bonds, the balance available under the mortgage of July 1, 1909, to reimburse the treasury for expenditures made from surplus. It is proposed to sell the bonds at not less than 84.16 or to pledge them at not less than 80 but no arrangements have been made.

KNOXVILLE, SEVIERVILLE & EASTERN.—Valuation.—The Interstate Commerce Commission has found the final value for rate-making purposes of the property owned and used for common carrier purposes as of June 30, 1916, to be \$400,000 and that of the property used but not owned to be \$10,650.

MISSOURI-KANSAS-TEXAS.—Acquiring of Physical Property.—The Missouri Public Service Commission on October 13 granted the Missouri-Kansas-Texas permission to acquire a deed to the physical property of the Missouri-Kansas-Texas Terminal Company in St. Louis, Mo., and the property of the Missouri & Kansas Railway Bridge at Booneville, Mo. The St. Louis property includes the Baden yards, roundhouse and auxiliary buildings, freight house and yards in North St. Louis. The Missouri-Kansas-Texas owns all of the stock of the smaller companies it is absorbing.

MOBILE & OHIO.—Equipment Trust Certificates.—This company has applied to the Interstate Commerce Commission for authority for an issue of \$1,650,000 of 4½ per cent equipment trust certificates which have been sold to Clark, Dodge & Co., at 96½%. The bankers have issued the certificates at prices to yield from 4 per cent to 4.80 per cent.

NEW ORLEANS, TEXAS & MEXICO.—Bonds Sold.—Blair & Co., Inc., have sold \$2,784,000 first mortgage 30-year 5 per cent gold bonds, series "A," due April 1, 1954, at 99 and interest to yield 5.57 per cent. The proceeds of these bonds will be used to retire \$2,578,903 conditional sale purchase notes (including interest), issued for the purchase of equipment and for other corporate purposes.

OKLAHOMA CENTRAL.—Acquisition.—See Atchison, Topeka & Santa Fe.

PARIS & MT. PLEASANT.—Valuation.—The Interstate Commerce Commission has found the final value for rate-making purposes of this company's property owned and used for common carrier purposes to be \$813,771 as of June 30, 1918.

PENNSYLVANIA.—Bonds.—The Interstate Commerce Commission has authorized this company to issue \$50,000,000 of 40-year 5 per cent secured gold bonds, to be sold at not less than 95½% and the proceeds used to make a payment on the company's indebtedness to the government for capital expenditures during the period of federal control.

PENNSYLVANIA.—Loan.—Kuhn, Loeb & Co. on behalf of themselves and a group of bankers, have loaned the Pennsylvania Railroad \$40,000,000 at 3 per cent per annum, repayable early in November when the \$50,000,000 bonds recently sold will be paid for. With the proceeds of this loan and payments already made, the railroad company will complete payments of \$50,000,000 on account of its notes to the director general of railroads, carrying interest at the rate of 6 per cent per annum.

SOUTHERN.—Equipment Trust Certificates.—The Interstate Commerce Commission has authorized an issue of \$7,050,000 of 4½ per cent equipment trust certificates which have been sold to Drexel & Co., at 96.25.

UNION FREIGHT RAILROAD.—Valuation.—The Interstate Commerce Commission has found the final value for rate-making purposes of the common carrier property to be \$429,833 as of June 30, 1915.

WINSTON-SALEM TERMINAL COMPANY.—Securities.—The Interstate Commerce Commission has authorized an issue of \$3,000 of capital stock and \$800,000 of first mortgage 6 per cent bonds to be guaranteed by the Southern, the Winston-Salem Southbound and the Norfolk & Western, for the purpose of providing funds for the acquisition of land for terminal facilities at Winston-Salem, N. C.

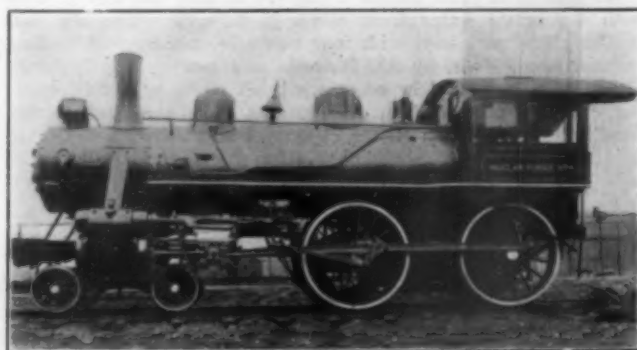
YAZOO & MISSISSIPPI VALLEY.—New Director.—Col. A. H. Egan, general superintendent of this line at Memphis, Tenn., has been elected to the board of directors.

Dividends Declared

Chicago & Western Indiana.—1½ per cent, quarterly, payable October 7.
Pennsylvania Railroad.—75 cents, quarterly, payable November 29 to holders of record November 1.

Trend of Railway Stock and Bond Prices

	Oct. 21	Last Week	Last Year
Average price of 20 representative railway stocks	69.89	67.96	58.86
Average price of 20 representative railway bonds	87.87	87.91	81.92



Test Locomotive at Purdue University

Railway Officers

Executive

David E. Galloway, whose promotion to assistant vice-president of several subsidiary companies of the Canadian National, with headquarters at Montreal, Que., was announced



D. E. Galloway

in the *Railway Age* of October 11, was born on August 31, 1882, in Crieff township, Puslinch, Ont. He was educated in the public and high schools and business college at Guelph and Hamilton, Ont., and entered railway service in February, 1901, in the claims department of the Grand Trunk at Hamilton. A short time thereafter he was transferred to Montreal, and in March, 1902, he entered the freight department. In May, of the same year, he was appointed secretary to the general freight agent and from September, 1904, to October, 1911, he served as private secretary to C. M. Hays, then president of the Grand Trunk. He was then appointed assistant to the president and served in that capacity until the amalgamation of the Grand Trunk and the Canadian National when he became chief assistant to the president of the latter company in March, 1923. Mr. Galloway was serving in that capacity at the time of his recent promotion to assistant vice-president of several subsidiary companies of the Canadian National.

Financial, Legal and Accounting

J. Walter Coon, whose appointment as secretary of the Delaware & Hudson, with headquarters at New York, was announced in the *Railway Age* of October 11, was born on



J. W. Coon

January 7, 1875, at Warren, Ill., and received a high school education. He entered railway service on February 5, 1890, as a messenger for the Baltimore & Ohio at Chicago and a year later he became clerk to the general superintendent at the same place. In 1893 he became file clerk and in 1897 he was appointed assistant chief clerk at Newark, Ohio, and two years later he became an accountant at Baltimore, Md., in the general manager's office. Mr. Coon became chief clerk to the general manager and vice-president at Baltimore in 1904 and in 1909 he was appointed assistant to the third vice-president of the same company and with the same headquarters. In 1915 Mr. Coon was appointed special agent of the Delaware & Hudson, with headquarters at New York, and served continuously in that capacity until his recent appointment as secretary of the D. & H.

Operating

G. W. Stanley has been appointed assistant trainmaster of the St. Louis division of the Missouri Pacific, with headquarters at St. Louis, Mo.

H. B. Baker has been appointed superintendent of special service of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kans., a newly created position.

O. N. Harstad, whose promotion to assistant general manager of the Chicago, Milwaukee & St. Paul, Lines East, with headquarters at Chicago, was reported in the *Railway Age* of October 18, was born on December 25, 1886, at Sioux City, Ia. He entered railway service on January 1, 1904, as chief clerk to the division superintendent on the Chicago, Milwaukee & St. Paul, and held that position until January 11, 1911, when he was promoted to chief clerk to the general superintendent. Mr. Harstad was promoted to trainmaster in 1917, and the following year was promoted to division superintendent, with headquarters at Aberdeen, S. Dak. He was later promoted to general superintendent of the Southern district, with headquarters at Chicago, and remained in that position until his recent promotion to assistant general manager.

E. Y. Graves, whose appointment as superintendent of stations and transfers of the Seaboard Air Line, with headquarters at Norfolk, Va., was announced in the *Railway Age* of October



E. Y. Graves

4, was born on June 13, 1882, at Aiken, S. C. He received a common school education and entered railway service in August, 1899, as a messenger for the Louisville & Nashville at Montgomery, Ala. A short time thereafter he became a demurrage clerk and in 1901 he was appointed assistant cashier and bill clerk of the Atlanta & West Point and the Western Railway of Alabama at Montgomery. In 1902 he became a clerk in the commercial office of the Seaboard Air Line and in 1906 he became chief clerk to the freight

agent of the same company at Cordele, Ga. He was appointed an agent at Columbus, Ga., in 1908 and in 1915 he was transferred to Tampa, Fla. Mr. Graves also served as agent at Jacksonville, Fla., from March, 1919, to August, 1920, and at Savannah, Ga., from the latter date up to the time of his recent promotion to superintendent of stations and transfers.

C. H. Buford, whose promotion to general superintendent of the Southern district of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, was reported in the *Railway Age* of October 18, entered railway service as engineer of track elevation of the Chicago, Milwaukee & St. Paul. In April, 1917, he was promoted to trainmaster of the Sioux City and Dakota division and in February of the following year, was transferred to the LaCrosse division, with headquarters at LaCrosse, Wis. Mr. Buford was promoted to superintendent of the Wisconsin Valley division in July, 1918. He was transferred to the Superior division in November of that year, to the Sioux City and Dakota division in August, 1919, and to the Terre Haute division in November, 1921. He remained in the last position until his recent promotion.

Norman A. Ryan, whose promotion to superintendent of the Terre Haute division of the Chicago, Milwaukee & St. Paul, with headquarters at Terre Haute, Ind., was reported in the *Railway Age* of October 18, was born on November 5, 1890, at Superior, Nebr. He entered railway service in September, 1909, in the operating department of the Chicago, Burlington

& Quincy at Alliance, Nebr., and in May, 1912, went into the operating department of the Southern Pacific at Sacramento, Calif. He remained there until October, 1912, when he returned to the Burlington in the operating department on the Wyoming district. In June, 1917, Mr. Ryan enlisted in the Engineer Corps of the United States Army as a private and remained in military service until May, 1919, when he was honorably discharged as a lieutenant. Mr. Ryan entered the service of the Chicago, Milwaukee & St. Paul as inspector of transportation on the Southern district, with headquarters at Chicago, in May, 1919. He was promoted to trainmaster of the Milwaukee Terminal division in September, 1920, and in December, 1921, was transferred to the Terre Haute division. He was promoted to assistant superintendent of the same division in July, 1923, and remained in that position until his recent promotion to division superintendent.

Macy Nicholson, whose resignation as general manager of the Chicago, Milwaukee & St. Paul, Lines West, to become a member of the Train Service Board of Adjustment for the Western region, was reported in the *Railway Age* of October 18, was born on October 20, 1874, at Hagerstown, Ind. He entered railway service on May 1, 1891, as a clerk on the Chicago & North Western and served in this capacity until June 1, 1896, when he was appointed a clerk in offices of the United States Steel Corporation in Michigan. Mr. Nicholson returned to railway service in June, 1898, as chief clerk to the president of the Great Northern. He was promoted to assistant division superintendent in 1903, and in 1905 was promoted to division superintendent. He was promoted to assistant general superintendent in 1913 and held this position until March, 1917, when he was promoted to assistant to the vice-president. Mr. Nicholson was also appointed a member of the Commission on Car Service of the American Railway Association at that time. He was appointed assistant general manager of the Chicago, Milwaukee & St. Paul, Lines East, on November 1, 1917, and on March 1, 1920, was promoted to general manager, Lines West. Mr. Nicholson remained in that position until his recent appointment as a member of the Train Service Board of Adjustment.



M. Nicholson

Traffic

J. H. Day has been appointed division freight agent of the New York, Chicago & St. Louis, with headquarters at Ft. Wayne, Ind., succeeding **W. H. Wallace**, who has retired on pension, after 42 years of service with the New York, Chicago & St. Louis.

Brooks G. Brown, assistant freight traffic manager of the Southern, with headquarters at Washington, D. C., has been promoted to freight traffic manager, with the same headquarters, succeeding **Elmer R. Oliver**, whose election as vice-president in charge of traffic was announced in the *Railway Age* of October 18.

R. N. Nash, general freight agent of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., has been promoted to assistant freight traffic manager, with the same headquarters, a newly created position. **F. C. Freiburg**, assistant general freight agent, has been promoted to general freight agent, succeeding Mr. Nash. **H. P. Norden** has been appointed assistant general freight agent, with headquarters at St. Louis, succeeding Mr. Freiburg.

C. H. Ashar, coal freight agent of the Baltimore & Ohio, with headquarters at Cincinnati, Ohio, has been promoted to general coal freight agent, with headquarters at Baltimore, Md., succeeding T. J. Walters, whose death on August 30 at Baltimore was announced in the *Railway Age* of September 13. **J. A. Scheuerman**, coal freight agent at Baltimore, has been transferred to Cincinnati, in the same capacity, succeeding Mr. Ashar. **C. W. Shinnamon**, coal freight agent at Cleveland, Ohio, has been transferred to Baltimore, succeeding Mr. Scheuerman. **J. P. Leingang**, chief clerk to the assistant general freight agent at Cleveland, has been promoted to coal freight agent, with the same headquarters, succeeding Mr. Shinnamon.

Engineering, Maintenance of Way and Signaling

R. E. Caudle, whose promotion to district engineer of the International-Great Northern, with headquarters at Houston, Tex., was reported in the *Railway Age* of October 18, was born on August 10, 1886, at Clarksville, Tex. He entered railway service in 1905 as a chainman on the Kansas City, Mexico & Orient at Sweetwater, Tex., and subsequently held various positions in the engineering department of that road. He was appointed assistant engineer on the Texas & Pacific in 1911 and was promoted to division engineer in 1913. Mr. Caudle entered the service of the International-Great Northern in 1916 as assistant engineer. He was promoted to division engineer in 1917 and in 1918 was promoted to general foreman of bridges and buildings and water service. He was again appointed division engineer in 1919 and held that position until 1921, when he was promoted to assistant engineer of structures. Mr. Caudle served in that capacity until his recent promotion to district engineer.

Obituary

George V. Massey, who retired from active service as general counsel of the Pennsylvania on December 31, 1911, under the pension regulations of the company, died on October 21, at Philadelphia, Pa., at the age of 83. Mr. Massey was connected with the legal department of the Pennsylvania for 35 years. He was born on December 16, 1841, in West Whiteland township, Chester county, Pa., and was educated at the Freeland Seminary in Montgomery county and at a school at Delaware Water Gap, Pa. He studied law and was admitted to the bar at Dover, Del., in October, 1865, entering railway service in 1876 as a solicitor for the Philadelphia, Wilmington & Baltimore (now a part of the Pennsylvania). On August 1, 1895, he was appointed assistant general solicitor of the Pennsylvania and on November 12, 1902, he was appointed general solicitor. Upon the reorganization of the company's legal department, later in the same year, Mr. Massey was appointed general counsel, in which capacity he served continually up to the time of his retirement in 1911.



G. V. Massey

HOWARD ELLIOTT, chairman of the Northern Pacific, recently was elected president of the Board of Overseers of Harvard University. Mr. Elliott is a Harvard alumnus and has served seventeen years on the Board of Overseers, during which time he has taken a particular interest in the development of the Graduate School of Business Administration, the curriculum of which includes courses on transportation.

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